



NAVAL POSTGRADUATE SCHOOL

MONTEREY, CALIFORNIA

MBA PROFESSIONAL REPORT

**Identifying and Analyzing
Federal Government Market Opportunities
For OpalSoft**

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 September 2004**

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**IDENTIFYING AND ANALYZING FEDERAL GOVERNMENT MARKET
OPPORTUNITIES FOR OPALSOFT**

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Submitted in partial fulfillment of the requirements for the degree of

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from the

**NAVAL POSTGRADUATE SCHOOL
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IDENTIFYING AND ANALYZING FEDERAL GOVERNMENT MARKET OPPORTUNITIES FOR OPALSOFT

ABSTRACT

The purpose of this MBA Project is to identify and analyze the Federal Government information technology services market to be used in OpalSoft's operational application. A general review of OpalSoft's current operations and strategy will be conducted. The core of the project will concentrate on the review and analysis of the federal government information technology services sector. This portion of the project will present regulatory mandates, data reviews and survey findings from various federal contracting organizations. These analytical insights should facilitate OpalSoft in achieving its future goals and objectives in this market. The end-state of this project is to supply OpalSoft with a greater understanding of the Federal Government market and to capitalize on opportunities that market presents.

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LIST OF ACRONYMS AND ABBREVIATIONS

ASFI	Army Single Fact to Industry
CICA	Competition in Contracting Act
CIO	Chief Information Officer
CCR	Central Contractor Registration
CECOM	Communications and Electronics Command
CEO	Chief Executive Officer
CY	Calendar Year
DOC	Directorate of Contracting
DoD	Department of Defense
DON	Department of the Navy
EAI	Enterprise Application Integration
FAR	Federal Acquisition Regulation
FASA	Federal Acquisition Streamlining Act
FEA	Federal Enterprise Architecture
FedBizOpps	Federal Business Opportunities
FISC-SD	Fleet Industrial Supply Center-San Diego
FY	Fiscal Year
GCS	Government Contract Service
GSA	General Service Administration
GWOT	Global War on Terrorism
HUB Zone	Historically Underutilized Business Zone
IT	Information Technology
ITSS	Information Technology Support Services
KO	Contracting Officer
LOGCAP	Logistics Civilian Augmentation Program
NCW	Network Centric Warfare
NECO	Navy Electronic Commerce Online
NMCI	Navy and Marine Corps Internet
OMB	Office of Management and Budget

OMC	Open Market Corridor
QA	Quality Assurance
SARA	Services Acquisition Reform Act
SBA	Small Business Administration
SDB	Small Disadvantaged Business
SECDEF	Secretary of Defense
SSEB	Source Selection Evaluation Board
STARS	Streamlined Technology Acquisition Resources for Services

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I. INTRODUCTION

A. PURPOSE

The purpose of this MBA Professional Report is to perform a Federal Government Market analysis to identify opportunities for OpalSoft to enter into contracts with the Federal Government. This MBA Professional Report examines and evaluates governing regulations concerning small businesses, past and projected Federal Government spending on IT related services and products, and surveys sent to Directorates of Contracting around the United States.

As the nation's largest single computer services consumer [Ref. 26], the United States Federal Government qualifies as a market sector worthy of study. Their range of requirements is vast and diverse. In 2003, the federal government experienced an information technology (IT) spending increase of over 190% from FY 2002. More than \$115 billion of IT related contracts were awarded. DoD's spending accounted for approximately \$83.1 billion for IT prime contracts last year, which is more than all other federal agencies combined. This trend indicates that "For the first time in a long time, we are seeing growth in defense IT spending outpace growth in civilian IT spending" [Ref. 27:p. 1].

B. OBJECTIVES

In response to the needs of the Federal Government and the mandates of the Federal Acquisition Regulation, OpalSoft, a small business providing information technology services, requested an analysis of past government contracting practices. The goal is to assess the current government market for information technology services, identify customers who require OpalSoft's services, and recommend alternate ways to enter the Federal Market. In order to clarify these issues, data was gathered to address the following research questions.

C. RESEARCH QUESTIONS

1. Primary Research Question

How can OpalSoft effectively enter into and/or expand sales to the Federal Government market?

2. Subsidiary Research Questions

- What is a Small Business and what are the key laws and regulations that govern their participation in the Federal Government Market?
- What are some of the barriers that small businesses must overcome in order to enter the Federal Government Market?

D. SCOPE

This MBA Professional Report is an analysis of past contracting patterns in selected DoD organizations. The effort is primarily focused on market research of IT services procurement procedures. A literature review and statements by key government contracting representatives involved in the acquisition process enhance this study. This report does not provide a comprehensive business strategy. Rather, it provides an internal and external analysis of the government contracting process, identifies alternate means to win government contracts, and provides recommendations for future studies in government contracting for Information Technology services.

Specifically, this MBA Professional Report: (1) reviews current and past IT contracting practices of selected commands; (2) analyzes past and projected IT related expenditures; (3) identifies opportunities for OpalSoft to enter into the federal government market better; (4) provides a list of possible clients to OpalSoft; (5) provides and recommends key factors or results utilized by similar IT services firms serving the Federal Government.

E. METHODOLOGY

This MBA Professional Report is an analysis of the U.S. Federal Market opportunities with specific application to OpalSoft. Methodologies used in this research consisted of literature search and written surveys consisting of both quantitative and qualitative questions. Through a comprehensive literature review and information gathering, a focused analysis of potential federal government customers was conducted to highlight potential business opportunities.

Additionally, this report also reveals how small businesses can be affected by acquisition reform legislations. Key contracting personnel in selected commands across

the United States were surveyed on of the areas being researched. The intent of the survey was to allow the researchers to gain a greater understanding of how small businesses are impacted by government legislation.

F. ORGANIZATION OF STUDY

Following the introductory chapter, Chapter II provides background information on OpalSoft, their current business strategy, current business plan, and details of their future goals and objectives. A Strengths, Weaknesses, Opportunities and Threats (S.W.O.T) analysis was developed and utilized to assess OpalSoft's current place in the business market. Chapter III focuses on federal market analysis to include applicable regulations and an IT services spending analysis. Chapter IV details results of the government contracting organization survey. Finally, Chapter V presents the findings and recommendations of this MBA Professional Report.

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II. BACKGROUND

A. GENERAL

OpalSoft is an IT service-company based in San Jose, California. It is a privately owned company of approximately 45 employees established in August 1997 by Mr. OP Choudhary, CEO and his spouse Alkesh Choudhary. OpalSoft is a federally recognized Small Business Firm (8a) that provides services to commercial and government markets. OpalSoft's industrial focuses are the government sector, hi-tech manufacturing, and finance and insurance. Their primary services include application integration (50%), Java 2 Enterprise Edition (J2EE) and Microsoft.Net Development Framework (25%), IT infrastructure (15%), and Networking Management (10%).

As of 2003, their customer base is spread across the United States; however, primary clients are concentrated along the East and West Coasts. The offshore market accounts for 10% of their current business. Currently, their principal revenue sources are located in Silicon Valley. OpalSoft's customer list comprises a variety of industries to include Fortune 500 companies. Current key clients are Amkor, Symantec, Unisys Corporation, Apple Computers, Palm, Inc., and Fujitsu America. (see Figure 1) The data was gathered from OpalSoft's Business Plan 2003, version 1.0 drafted in January 2003. No further published data was available to update the "Projected" status for 2003.

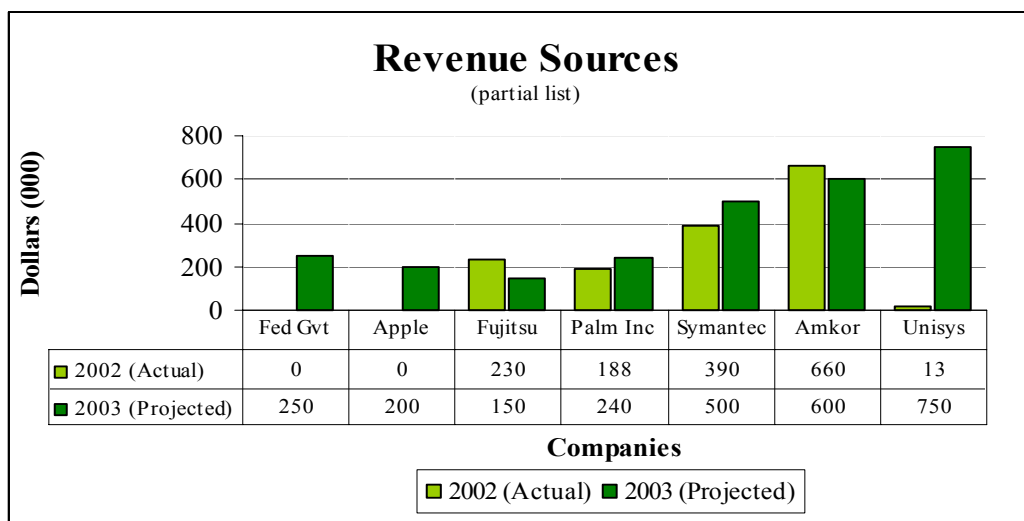


Figure 1. Revenue Sources of OpalSoft's Key Clients

The company has established three business segments; the private sector, local and government and the Federal Government. As a financially stable company, OpalSoft has been successful in experiencing a steady revenue growth from 1999 to 2002 with a revenue range of \$2 million to \$3.2 million. To maintain this growth rate, OpalSoft has aggressively sought out and continues to explore greater business opportunities in the Federal Government market.

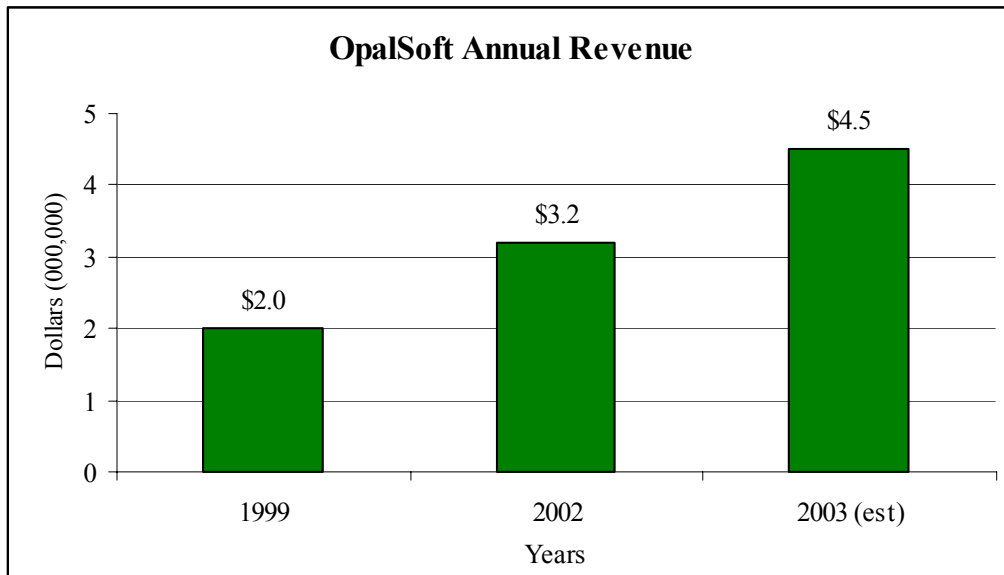


Figure 2. OpalSoft's Revenue

B. SERVICES OFFERED

OpalSoft offers an entire set of IT professional services. The company's schedule, or product line can be categorized into three segments: Managed Software Development, Systems Integration, and Project Staffing. The following job descriptions are what OpalSoft has stated as its primary IT services.

1. Managed Software Development

OpalSoft delivers fully managed software development services by combining technology skills, delivery infrastructure, proven and flexible project mythology, and decades of collective experience to help customers build software applications. These projects range from eBusiness and web-based applications to enterprise-wide application development to the introduction of new products.

Services in this area are focused on:

- Product Engineering
- Application Development
- Re-Engineering Legacy Applications
- Application Support

OpalSoft provides a flexible model for execution of the 'just-for-you' solution tailored to meet specific needs of clients. The Delivery Model provides for the execution of projects, either onsite (at the client site) or offsite (OpalSoft facilities in San Jose, California) or a combination of both. It ensures complete transparency of the developmental effort following predefined objectives, milestones, QA & Testing, acceptance criteria and delivery. It is driven by critical factors such as time-to-market, technologies involved, integration issues, and requirements of the interactive and iterative process and of the client interface.

The OpalSoft Delivery model, outlined in their current business plan and dated January 2003, version 1.0, has four phases for transferring the Application Development and/or Support responsibility from the client to OpalSoft [Ref. 2]. The phases are as follows.

a. Startup Phase

This phase involves identifying the application system to be developed or supported including the environment. Consultants assimilate knowledge about the business processes and functionality, existing methods and support procedures followed, technical setup as well as the standards, and quality assurance techniques adopted at the client site.

b. Adaptation Phase

All requisites for providing application support from offshore are identified based on the experience gained in the startup phase. A mechanism to derive productivity, quality, reliability and user satisfaction metrics is built, and targeted deliverables are established in this phase.

c. Transformation Phase

This phase involves ensuring the smooth transfer of domain know-how from the client's organization to the extended IS organization offsite. A complete repository of technical information pertaining to the project along with standards, procedures and quality-related repository is created.

d. Stable Phase

This involves the transfer of responsibility to the offsite team for complete development/support activities. During this phase, the offsite team is fully responsible for development, routine maintenance, enhancements and documentation.

2. System Integration

OpalSoft leverages their technology skills, domain knowledge, system integration expertise and strong partnerships with technology vendors to help the customer implement customized solutions utilizing the best-in-class technology. They make complex technologies work together for a seamless enterprise-wide information system.

They focus on delivering business results and performance improvement by bringing complex technologies together to maximize compatibility, interoperability, and enterprise-wide information management.

They deliver a broad range of systems integration solutions including:

- Custom application development
- Package customization and integration
- Hardware and software component integration
- Application maintenance/customization/enhancement
- Solution deployment and project management

Their systems integration capabilities include:

- Requirements analysis
- Planning, designing and implementing custom application systems and information infrastructures
- Implementing, extending and customizing ERP (enterprise software) packages
- Integrating mission critical enterprise applications with eBusiness applications

- Training and change management
- Knowledge transfer
- Legacy management and Internet enablement services
- Ongoing systems and applications management and maintenance

3. Project Staffing

OpalSoft offers flexible staffing solutions to premier organizations worldwide that require technical expertise on demand. The technology professionals they employ are either on a contract, contract-to-hire or full-time basis. Their Staffing Solutions group has been providing staff augmentation solutions to IT problems and projects since 1997.

OpalSoft consultants deliver value, flexibility, and quality with skills spanning a broad range of technical disciplines to include:

- Business Analysis
- Project Management
- Systems Analysis
- Software Engineering
- Database Design
- Network Administration
- Database Administration
- Quality Assurance

C. CURRENT MARKET SITUATION

It is without a doubt that OpalSoft is operating in a very competitive and volatile market sector directly influenced by the national economy and business spending directly affecting Silicon Valley over the past five-plus years. Increasing competition and declining demand typically work against small companies. OpalSoft was forced to compete directly with large corporations with significantly greater asset bases. This specific situation challenged OpalSoft during the recent IT downturn in Silicon Valley.

To survive in this market, OpalSoft relies on key business acumen to guide them through this difficult time. Their reliance on building long term relations with key customers, controlling costs and retaining a quality workforce has thus far resulted in positive results. Additionally, OpalSoft has sought out the Enterprise Application

Integration business segment. The “IDC Research expects the EAI services market to become the most important and fastest- growing IT sector in the next three to five years” [Ref. 1]. Within the federal government market, OpalSoft relied on subcontract awards from the Unisys Corporation (prime vendor) [Ref. 2].

Current economic conditions indicate that the “prolonged slump in spending on information technology (IT) products and services may be over” [Ref. 15:p. 1]. Analysts state that IT spending is well underway as the IT services sector posted a 2% increase in 2003 followed by a fair momentum at the beginning of 2004.

D. OPALSOFT'S GOALS AND OBJECTIVES

In terms of Federal market goals and objectives, OpalSoft has confidently allocated approximately 50% of the company’s resources dedicated to obtaining their market share [Ref. 33]. With the help of SBA certifications and GSA contracts, they hope to increase business to a minimum of 50% in 2004 from a base of \$1 million in 2003. The following year’s growth rates are established at 25% per year with hopes of attaining \$2.4 million by 2006.

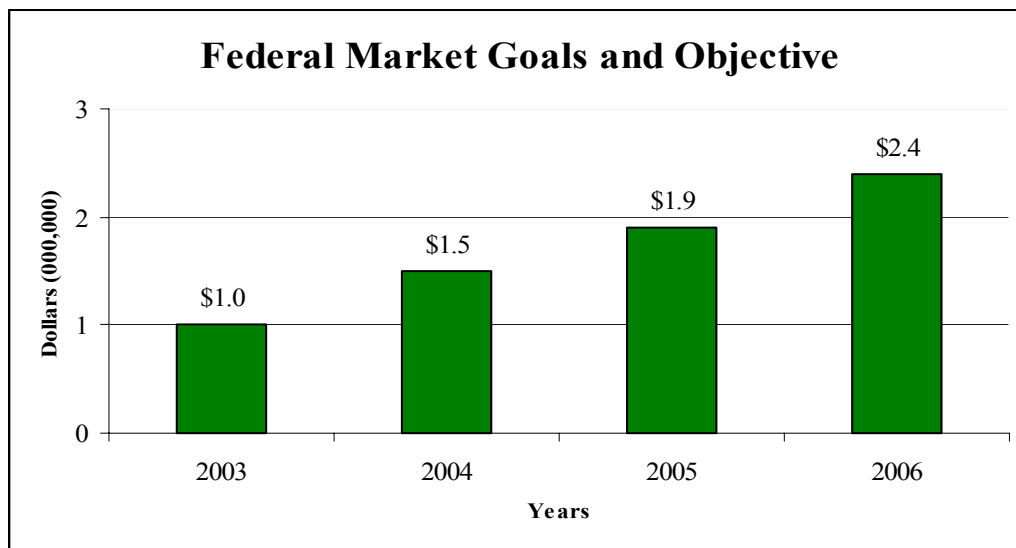


Figure 3. Federal Market Revenue Objective

E. OPALSOFT'S STRATEGY AND MARKET PLAN

Recognizing that the federal government offers great potential for revenues, OpalSoft initiated preliminary actions to optimize future government contract actions.

The initial objective of exploiting these benefits was to identify federal agencies and prime vendors for contract opportunities. The following certification and contracts indicate OpalSoft's achievements to date.

1. Small Business Administration (SBA) 8(a) Small Disadvantaged Business (SDB) Certification, February 2003

Directly, this certification provides distinct advantages and possibilities to participate in the Federal IT market. Indirectly, this certification sets them apart as a highly sought-after vendor by many prime Department of Defense vendors.

2. General Service Administration (GSA) Contract, GSA IT 70 (GS-35F-0688N)

GSA conducts over \$66 billion dollars of transactions per year [Ref. 4]. It is a valuable source for selling to the Federal Government. Furthermore, the Federal Supply Schedule provides OpalSoft instant access to the geographically dispersed government customers. GSA contracts are a powerful source because contracting officers are required to use the Federal Supply Schedule prior to:

- Establishing new schedules
- Discontinuing existing schedules
- Changing the scope of agency or geographical coverage of existing schedules
- Adding or deleting special item numbers, national stock numbers, or revising their description.

3. GSA 8(a) Streamlined Technology Acquisition Resources for Services (STARS), GS-06F-0216Z, 1 June 2004

This contract allows OpalSoft to provide services as part of an integrated solution with short procurement lead time and effort.

4. GSA Validation

Twenty-one labor categories have been validated by the GSA based on OpalSoft's past performance. Validation entails that OpalSoft's services and past performances have been evaluated by third parties such as Dunn and Bradstreet for quality assurance. Specific areas evaluated by third parties include company overview, supplier performance rating, buyer survey, and distribution feedback. This process is conducted to ensure that customers receive the best value.

In addition to the aforementioned achievements, OpalSoft has employed various means to market their services. Techniques range from direct marketing, industry-sponsored events, referrals, quality leads, networking, current customer base, and the Internet. In addition to these methods, they registered and listed the company on government specific acquisition sites to include PRO-Net, Central Contractor Registration (CCR) and Information Technology Support Services (ITSS). In September 2002, to facilitate targeting federal government contracts and writing proposals, OpalSoft contracted with the Government Contract Services (GCS) based in Florida. This organization specializes in providing clients with Government contracting information and services. GCS assisted OpalSoft in acquiring a GSA schedule; however, no further progress has been made. Finally, to ensure the competitive edge is maintained, OpalSoft offers a favorable 17% price discount to the Federal Government and bulk discounts based on project duration.

OpalSoft fully intends to cultivate sales opportunities in the East Coast states (VA, MD, PA, and NJ), and Washington, D.C., by hiring a new sales person. The West Coast region (WA, CA, AZ) will continue to be worked by their current team (for further discussion on their current marketing team, see Section F, para 2c ii). OpalSoft's primary goal on the West Coast is to focus on the Department of Defense, specifically the United States Navy. The following is a list of key prime vendors and federal government agencies OpalSoft has currently identified:

5. Key Prime Vendors

- Unisys Corporation, VA
- Anteon, CA
- CSC, CA
- Northrop Grumman, CA

6. Federal Government Agencies

- Resident Officer In Charge of Construction, Naval Air Station Lemoore, CA
- Naval Postgraduate School, Monterey, CA
- U.S. Coast Guard Alameda, CA
- U.S. Coast Guard Oakland, CA

OpalSoft has been committed over the past several years to seeking out the Federal Government market. In an effort to penetrate this new market, they planned and executed the below listed key tasks for 2003 [Ref. 2]. In general, their strategy is divided into two major segments: 8(a) market segment and non-8(a) market segment.

7. 8 (a) Market Segments

- Networking at SBA/GSA sponsor events to make connections and access this market. OpalSoft is a regular attendee at the monthly events hosted by GSA.
- Identify current Federal opportunities on fedbizopps.gov and dodbusopps.com websites.
- Pursue initiatives for Federal Supply Schedule listing.
- OpalSoft is registered with Pro-Net, CCR and ITSS.
- Explore sub-contracting opportunities.
- Take assistance from the SBA specialist as part of the 8(a) program.
- Communicate special commercial policy for the Government agencies.

8. Non-8 (a) Market Segments

- Articulate more focused message for the EAI market.
- Improved marketing material to support selling efforts (brochures, website and email campaigns)
- Solicit revenue projections from the existing customers
- Part-time hire practicing manager for pre-sales help for meeting, presentations and technical follow-ups.
- Solidify partnership with EAI vendor (Fiorano)

F. STRENGTHS, WEAKNESSES, OPPORTUNITIES, AND THREATS (SWOT) ANALYSIS

In order to systematically profile OpalSoft's current business environment, a SWOT analysis is conducted. A SWOT analysis is a valuable analytical tool used for diagnosing, assessing and summarizing an organization's overall strategic position and needs for a possible strategic change. Simply, it is a tool that assists in focusing in on key issues. Both internal (strengths and weaknesses) and external (opportunities and threats) factors are reviewed to summarize the business operating condition. Examples of

internal factors can include staffing, structure, training, management, and coordination. External factors are comprised of natural market barriers, competition, emerging new technologies, and government regulations.

The SWOT analysis can be useful for assessing an organization's overall competitive position in the market place. Despite the conclusive analysis that may derive from SWOT, it must be acknowledged that all outcomes are subjective in nature. The end state of a SWOT analysis is to match up the resources and capabilities to the opportunities in the market.

The authors of this document developed the following items listed in Table 1. SWOT Analysis. Primary sources cited to facilitate establishment of this model were the OpalSoft Business Plan 2003, version 1.0, January 2003, and *Strategic Thinking: an Executive Perspective* by Cornelis A De Kluyver, 2000. Additionally, it must be declared that both students drew upon the knowledge gained from the Strategic Management course taught by Professor Nicholas Dew (Ph.D). A significant portion of this course was involved conducting SWOT analysis for the following companies: Southwest Airlines, Wal-Mart, Dell, The Walt Disney Company, Monsanto, and the Global Water Treatment Industry. In declaring the sources for the below assessments, the subjectivity of the SWOT analysis is reiterated.

The result of OpalSoft's SWOT analysis follows.

<ul style="list-style-type: none"> • STRENGTHS • SBA (8a) Certification • GSA Contracts • Entrepreneurial Boldness 	<p><u>WEAKNESSES</u></p> <ul style="list-style-type: none"> • Federal Government Contracting • Competitive Market/Saturated • Limited Resource Pool
<p><u>OPPORTUNITIES</u></p> <ul style="list-style-type: none"> • Enterprise Application Integration • Open Market Corridor • Expand Business Scope • Increased IT Demands • LOGCAP • NECO & FISC 	<p><u>THREATS</u></p> <ul style="list-style-type: none"> • Large Companies • Navy Marine Corps Internet

Table 1. SWOT Analysis

1. Strengths

- SBA 8(a) Certification - The SBA has the oversight to ensure that small businesses have been afforded the maximum practicable opportunities. Section 211 of P.L.95-507 of the Small Business Act, 15 USC 637, authorizes the SBA to review solicitations for any contract over the stated thresholds in order to determine whether small business concerns owned and controlled by socially and economically disadvantaged individuals have been afforded the maximum practicable opportunity [Ref. 6]. Consequently, SBA 8(a) certification poses a tremendous advantage to small businesses due to the legislative mandate that sets aside certain contracts for small businesses. This presents a certain type of contracts without the fear of large business competition.
- GSA Contracts - This one-stop-shop has evolved effectively over the years to provide DoD customers with timely services and commodities since the early 1950s. Today, GSA is involved with almost \$66 billion of government business. The latest GSA reports state over \$15 billion was spent on IT products and services in 2003, which represents over one-third of the federal government's IT spending. Contracting with GSA offers OpalSoft a large portal into federal government requirements. This business relation allows the Federal Government to acquire IT services comfortably from a source with proven past performance and minimize any default concerns about the vendor.
- Entrepreneurial Boldness - The great Wayne Gretzky once said, *"You'll always miss 100% of the shots you don't take."* Suffice it to say that OpalSoft has proven its strength just by surviving the IT sector down-turn that has forced so many other Silicon Valley companies to shut their doors. Despite the new risks associated with expanding into an uncharted market, OpalSoft's business sense to seek out the federal government sector aggressively is a notable character trait that demonstrates their willingness to grow.

2. Weaknesses

- Federal Government contracting experience - OpalSoft is currently facing the challenges of being the "new guy" on the block. It is comparable to what a college graduate faces upon commencement. Although the regulations state, "an offeror's lack of past performance must be treated as an unknown performance risk, having no positive or negative evaluation significance...This allows the Government to evaluate past performance in a fair manner" [Ref. 7:p. 10]. Nevertheless, as the survey findings indicate, contracting officers still perceive an inherent risk when awarding to an unknown organization.
- Saturated Competitive Market - The dot-com down turn has caused large companies to seek out smaller clients to stay in the market. Consequently, small businesses are forced to compete directly with these established and

well-known companies. The outcome results in large companies broadening their customer base, causing small companies, without the option or assets to compete less effectively in the market place.

- Limited Resource Pool
 - Financial. Restricted availability of financial resources is a normal small business trait. This factor becomes a greater factor when small businesses attempt to change or even modify their business models. Risks are inherent in any business operation. However, small businesses perceive these risks to a larger degree due to a smaller margin of error tolerance.
 - Personnel. This constraint has influenced how OpalSoft staffs their current marketing department. According to OpalSoft Business Plan 2003, version 1.0, Alkesh Chowdhary is the Senior Vice President, Business Development and Marketing, and two departments are subordinate, Sales Director and Senior Manager Business Development. While they do have a part-time marketing agent located in the Washington, D.C. region, a full-time federal government-marketing agent does not exist in this organization. Their cost-savings approach to marketing has been via direct marketing. These methods include referrals and networking at the account manager level. Additionally, consultants working at the customer sites are also used for possible leads. In conclusion, it appears as if OpalSoft has not fully committed to establishing a full-time federal government marketing department.

3. Opportunities

- Enterprise Application Integration (EAI) - EAI is a business computing term for the plans, methods, and tools aimed at modernizing, consolidating, and coordinating the computer applications in an enterprise. EAI is the ongoing process of putting an infrastructure in place to create a logical business environment. It allows organizations to deploy new or changing business processes that rely on information technology [Ref. 1]. Organizations reliant on obsolete IT systems may realize huge performance increases by establishing an in-house EAI solution and incorporating Internet-based alternatives [Ref. 9].
- Open Market Corridor (OMC) – A new web based contracting/procurement program that allows federal, state and local governments to purchase supplies and services on-line. Electronic catalogs and embedded contract templates are accessible via the Internet. The OMC is a relatively new program, which executed \$32 million of

transactions in 2003. Enrollment is expected to increase once organizations see the ease of use.

- Expand business scope - Many IT companies which initially coded software or provided IT services have diversified into computer hardware components and their associated peripherals. This allowed them to boost name recognition, increase customer base, and build past performance. Apple Computers employed this model. Initially, Apple solely wrote code for operating systems. To expand their business scope, they later branched out into hardware and sold personal computers [Ref. 10].
- Increasing IT demands to support the Global War on Terrorism (GWOT) - DoD faces an enormous IT challenge while supporting the GWOT. Increasingly, DoD is going wireless as a way of life. Currently, DoD is faced with interoperability issues between legacy systems and up-to-the-minute off-the-shelf technologies the services are purchasing [Ref. 11]. While the President's 2005 budget provided only a modest increase to the IT spending, "The biggest tech spending increases unsurprisingly are dedicated to war fighting and related activities" [Ref. 12:p. 64].
- Logistics Civil Augmentation Program (LOGCAP) – LOGCAP is a force multiplier for contingency operations. The Army Material Command awarded a LOGCAP contract in 2003 to Haliburton. The purpose of this contract is to leverage civilian corporate resources in facilities and logistics services to support U.S. forces [Ref. 13]. Subcontracting opportunities exist to provide IT related services with the LOGCAP prime contractor in forward deployed areas (Iraq and Afghanistan).
- Navy Electronic Commerce Online (NECO) – NECO is the U.S. Navy's single point of entry for procurement opportunities greater than \$25,000. In essence, it is the Navy's version of FedBizOpps. Fleet Industrial Supply Center-San Diego (FISC-SD) delivers combat capability through logistics by teaming with regional partners to provide a wide range of goods and services. Currently, NECO is used to deliver much of FISC-SD's contract requirements. Similar to FedBizOpps, NECO also requires businesses to register with the Central Contractor Registration. Currently, Management Consulting Inc. of Virginia Beach, Virginia holds the contract to provide IT related support to the entire Navy Region Southwest [Ref. 14].

4. Threats

- Competition: Large Companies - In recent years, the IT services sector has faced increasing competition from hardware vendors that have recognized the services sector as having the most optimistic potential for future growth. Hardware providers began to migrate into the services sector in mid-1998 when Compaq Corporation acquired Digital Equipment Corp. Consequently, this was the driving factor for Hewlett-

Packard's acquisition of Compaq in 2001. Today, many historically renowned hardware vendors have increased their business scope to include IT services [Ref. 10].

- Navy and Marine Corps Internet (NMCI) – Upon completion, the NMCI will be the second largest network in the world, after the Internet. To enhance security, improve standardization, reduce duplication/redundancy, minimize software support costs and minimize compatibility and interoperability problems, the Navy designed their own Intranet. NMCI is the backbone for what the Navy does.

Currently, the NMCI program office requires IT purchases and service requests not listed on the NMCI contract and exceeding \$25,000 to be approved by regional commands at FISC. A board of officers and technicians typically meet once each month to approve purchases under \$25,000 at local installations [Ref. 15]. Each regional FISC has consolidated all contracts for IT related services and support under \$25,000. As a result, separate Navy installations are no longer able to procure IT services that can be provided by the NMCI contract.

G. SUMMARY

OpalSoft operates in a fiercely competitive market segment. This legacy of the recent technology downturn in Silicon Valley businesses clearly indicates the non-forgiving nature of this industry. While many companies have perished under these economic realities, OpalSoft persevered through the economic slump. As the Gross Domestic Product's information sector posted a 9.3% increase and the services sector increased by 3.6% in 2003, OpalSoft is prepared to reap the benefits of having survived the dot-com crash.

With a clear vision, OpalSoft has established specific goals to achieve greater success in the coming years. One particular area of interest is the federal government market, principally the Department of Defense. OpalSoft optimistically seeks opportunities in this market segment due to DoD's significant IT consumption. The FY 2003 IT expenditure was approximately \$27.3 billion [Ref. 17]. Furthermore, OpalSoft wholly recognizes the potential benefits of the Federal Government's socio-economic mandates for small businesses.

OpalSoft's current operational activities indicate a strong intent to exploit this new market segment. Thus far, they have acquired critical SBA certifications, established contracts with the GSA and subcontracted with DoD prime contractors. Their market strategy objective is to ultimately become a prime contractor to the Federal Government.

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III. FEDERAL MARKET ANALYSIS

A. GENERAL

The purpose of this section is to analyze the federal government IT market. It will examine the governing regulations that impact small businesses, conduct federal government IT services expenditure analysis, examine various small businesses barriers, and analyze the findings of the contracting survey.

B. GOVERNING REGULATIONS

The federal government's procurement process has recently undergone innovative reform. This change was required due to increased fiscal limitations and a public mandate for improved performance at all levels of the Federal government. The main objectives of acquisition reform were to empower government officials to make sound business decisions and to increase the efficiency and effectiveness of the acquisition process at a reduced cost to the taxpayer. As a result, numerous policies have been enacted to increase the efficiency of the procurement process. These statutes and their major acquisition reform initiatives shape the business landscape that OpalSoft must use.

1. The Federal Acquisition Regulation (FAR)

The Federal Acquisition Regulations (FAR) System, codified at Title 48 of the Code of Federal Regulations, was established for the codification and publication of uniform policies and procedures for acquisition by all executive agencies. The FAR contains the uniform policies and procedures for acquisitions by all federal agencies. It implements or addresses nearly every procurement-related statute or executive policy. In doing so, the FAR reaches every stage of the acquisition process.

Specifically, FAR Part 39 addresses the acquisition of information technology and outlines the policy. In acquiring information technology, agencies shall identify their requirements pursuant to OMB Circular A-130, including consideration of security of resources, protection of privacy, national security and emergency preparedness, accommodations for individuals with disabilities, and energy efficiency. When

developing an acquisition strategy, contracting officers should consider the rapidly changing nature of information technology through market research and the application of technology refreshment techniques [Ref. 18].

Prior to entering into an information technology contract, an agency must analyze risks, benefits, and costs. Reasonable risk taking is appropriate as long as risks are controlled and mitigated. Contracting and program office officials are jointly responsible for assessing, monitoring and controlling risk when selecting projects for investment and during program implementation. Types of risk may include schedule risk, risk of technical obsolescence, cost risk, risk implicit in a particular contract type, technical feasibility, dependencies between a new project and other projects or systems, the number of simultaneous high risk projects to be monitored, funding availability, and program management risk [Ref. 18].

When acquiring information technology services, solicitations must not describe any minimum experience or educational requirement for proposed contractor personnel unless the contracting officer determines the needs of the agency cannot be met without that requirement; or require the use of other than a performance-based contract [Ref. 18].

2. Competition in Contracting in Act (CICA)

The Competition in Contracting Act (CICA) became part of United States Statutory Law in 1984. Title VII of Public Law 98-369 changed a number of important pieces of the Federal Government procurement process. In particular, as per Subtitle A: Amendments to the Federal Property and Administrative Services Act of 1949, agencies are required to obtain full and open competition using competitive procedures or a combination of competitive procedures best suited under the circumstances of the procurement. Full and open competition is defined by the CICA to mean that all responsible sources are permitted to submit sealed bids or competitive proposals in the procurement process. Statutory law characterizes “competitive procedures” and provides guidance on soliciting full and open competition, source exclusions and restrictions, alternate sources of supply, other than full and open competition, proposal evaluation, and use of noncompetitive procedures [Ref. 19].

Due to numerous problems in the contracting protest review process, the government enacted a law that put an automatic stay of performance on any contract when it came under a review for protest. This stay in performance of the contract provided relief for successful protestors. Prior to the enactment of the CICA, the original contract awardee would continue performance of the contract while the protest was under review and would often times complete the contract before the protest was resolved. However, if the contract is deemed urgent and compelling, the contracting authority has the power to override the automatic stay in performance of the contract [Ref. 20].

3. Federal Acquisition Streamlining Act of 1994 (FASA)

The federal government buys a myriad of goods and services from contractors. Federal acquisitions must be conducted in accordance with a set of statutes and regulations designed to accomplish several objectives, including full and open competition and various social and economic goals, such as encouraging small business participation. In the late 1980s and early 1990s, some became convinced that the federal procurement system had become complex, unwieldy, and overwrought with tension between the basic goals of efficiency and fairness because of a proliferation of requirements governing almost every aspect of the acquisition process. In this environment, there were concerns about the government's ability to take full advantage of the opportunities offered by the commercial marketplace. In response to these concerns, Congress enacted two major pieces of reform legislation, FASA and Clinger-Cohen, aimed at creating a more efficient and responsive federal acquisition system.

FASA also amended the Small Business Act to create an exclusive reservation for small businesses consisting of contracts valued at more than \$2,500 but not more than \$100,000. However, agency contracting officers are not bound to this exclusive reservation if they are unable to obtain offers from two or more small businesses that are competitive with market prices, quality, and delivery of the goods or services being purchased.

Prior to FASA, procurements valued at \$25,000 or less were generally reserved for small businesses. FASA also took contracts of \$2,500 or less outside the range of the exclusive reservation for small businesses with the creation of a micro-purchase level of

\$2,500. Government buyers do not have to obtain competition and are not required to purchase goods or services from small businesses for micro-purchases of \$2,500 or less. Nevertheless, FASA requires these micro-purchases be distributed equitably among qualified contractors [Ref. 21].

4. Clinger-Cohen Act of 1996

The Clinger-Cohen Act enacted new provisions for acquisition reform, which greatly changed how information technology hardware and its related services are purchased for the Federal Government. The Clinger-Cohen Act revoked the central authority of the GSA for information technology acquisitions, authorized the use of multi-agency contracts for such acquisitions, authorized the Office of Management and Budget to designate agency executive agents for Government-wide Agency Contracts and authorized Federal agencies to make their information technology contracts available for use by other agencies. Under the Clinger-Cohen Act, FASA was expanded so organizations received more flexibility when making micro-purchases without competitive bids or additional market research [Ref. 21].

5. Services Acquisition Reform Act (SARA)

The Federal Government, recognizing that both the government and the commercial market are becoming increasingly service and technology oriented, built upon the critical procurement reform initiatives of the late 20th century and enacted the Services Acquisition Reform Act (SARA). Each year the Federal Government spends over \$200 billion on goods and services with over \$135 billion spent on services alone making it the largest single spending category.

SARA affects how the Federal Government procures goods and services. The purpose of SARA is to streamline the procurement process by providing more comprehensive training for acquisition professionals, incorporating a more business-like practice by integrating the acquisition process into the organization's mission and encouraging cross-agency acquisitions and information sharing, and provide incentives to the best commercial companies to participate in the Federal Market.

Provisions of Title V of the Services Acquisition Reform Act of 2002 allow state and local governments to buy off the General Services Administration federal supply schedules for automated data processing equipment, software, supplies, support equipment and services. Other provisions from the same section allow commercial organizations to conduct research and development to facilitate defense against, or recovery from, terrorism, nuclear, biological, chemical, and technological attack [Ref. 22].

6. Federal Socio-Economic Mandates

Selling goods and services to the government can be interesting and lucrative work for small businesses. The Small Business Administration has established criteria that must be met before executing business with the federal government. This section defines the major small business categories and explains how a small business is classified.

a. What is a Small Business Small Business Concern?

The Small Business Act states that a small business concern is “one that is independently owned and operated and which is not dominant in its field of operation.” The law also states that in determining what constitutes a small business, the definition will vary from industry to industry to reflect industry differences accurately. All federal agencies must use SBA's size standards for its Federal Government contracts it identifies as a small business. Size standards for some industries areas are as follows: [Ref. 22].

- 500 employees for Publishing Industries (except Internet)
- 1000 employees for most Computer and Computer Related manufacturing
- \$21 million for Internet Service Providers
- \$21 million for most computer design and programming services
- \$150 million for Information Technology Value Added Resellers

b. What is a Historically Underutilized Business Zone (HUB Zone)?

The HUB Zone Empowerment Contracting Program stimulates economic development and creates jobs in urban and rural communities by providing Federal-contracting preferences to small businesses. These preferences go to small businesses that obtain HUB Zone certification in part by employing staff who live in a HUB Zone. The

company must also maintain a “principal office” in one of these specially designated areas. A HUB Zone is defined as a tract of land located in a qualified “non-metropolitan area”, a community development corporation, or within the external boundaries of an Indian reservation. To meet the eligibility requirements of a HUB Zone, a small business concern must be certified by the SBA as a small business, must be owned and operated by one or more U.S. citizens, must be located within the HUB Zone, and must have 35% or more of its employees residing in the HUB Zone [Ref. 24].

c. 8(a) Business Development Program

The SBA's Business Development Programs are intended to help small businesses become competitive in the economy, access the Federal Market, and be successful in the future. To qualify for the 8(a) Business Development Program, a business must be certified by the SBA, be categorically owned and operated by one or more minorities who are in good standing and United States citizens, and must demonstrate the potential to succeed [Ref. 25]. Under the Small Business Act, certain accepted groups include African Americans, Hispanic Americans, Asian Pacific Americans, Native Americans, and Subcontinent Asian Americans. Other individuals can be admitted to the program if they show a “preponderance of the evidence” that they are disadvantaged because of race, ethnicity, gender, physical handicap, or residence in an environment isolated from the mainstream of American society.

C. SPENDING ANALYSIS OF THE FEDERAL MARKET

1. Current Spending

The United States Federal Government is the nation's largest single computer services consumer [Ref. 25]. Its range of requirements is vast and diverse. In 2003, the federal government experienced an IT spending increase of over 190% from FY 2002. More than \$115 billion of IT related contracts were awarded. DoD's spending accounted for about \$83.1 billion for IT prime contracts last year, which is more than all other federal agencies combined. This trend indicates that “For the first time in a long time, we are seeing growth in defense IT spending outpace growth in civilian IT spending” [Ref. 27:p. 1].

2. Purchases for FY 2003

Attributable to the sheer size of the federal government, certain purchasing patterns tend to impact the overall market. The government is an important factor for the systems integration sector. Between the public and private market place, the federal government purchases the greatest amount of systems integration services.

Spending analysis shows that the overall leader in spending was the Army, followed by the Navy and the Air Force (see Figure 4. Professional Services Expenditure by Service). The Army Communications and Electronics Command (CECOM) awarded the Army's biggest contract for \$23 billion. The top three types of services purchased include professional services, maintenance support services, and outsourcing (see Figure 5. Top Three DoD IT Service Expenditures).

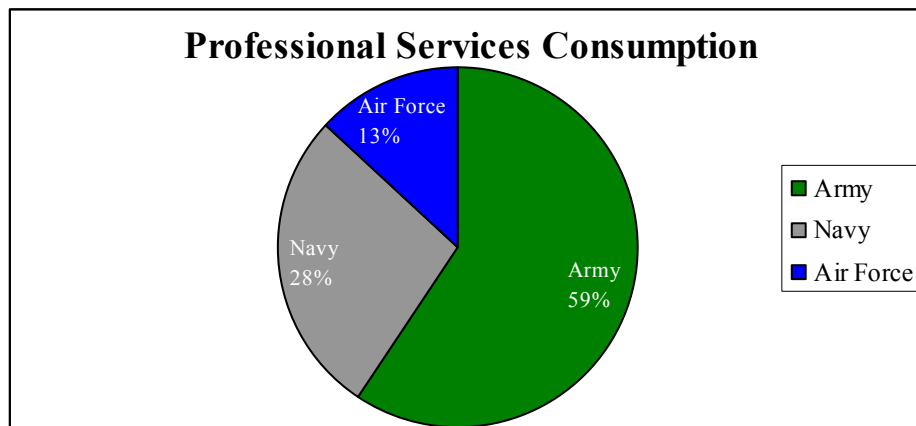


Figure 4. Professional Services Expenditure by Service

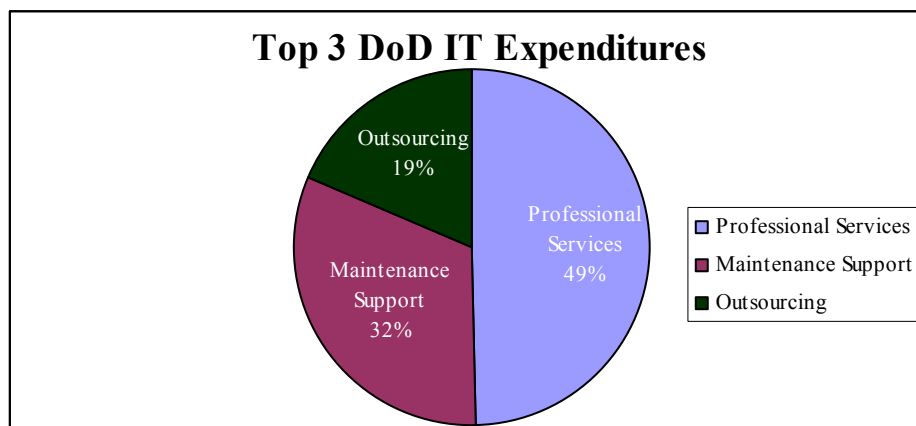


Figure 5. Top Three DoD IT Service Expenditures

Within the professional services sector (project management, quality assurance, planning and analysis, software development, education and training, engineering/scientific, consulting and designing, operations support, and modeling/simulation), the three services placed in the top five spenders among all federal agencies; Navy (\$13.1 b), Army (\$11 b), and Air Force (\$4.4 b). From the 536 professional service contracts awarded in FY 2003, six contracts accounted for over 55% of the total or \$22.7 b of all federal government IT expenditures (Table 2).

Top 5 Professional Service Contracts Awarded in CY2003			
Department	Program Name	Maximum Awarded Value	Ranking
Navy	Training Systems III	\$8 billion	1
Army	Defense Systems Integration Design Development Operation and Maintenance Support	\$8 billion	1
Education	Student Credit Management Common Services for Borrowers	\$2.3 billion	2
Transportation	Broad Information Technology Services II	\$1.7 billion	3
Health and Human Services	MHS Program and Analytic Support Services	\$1.6 billion	4
Navy	Flight School XXI Simulation Services	\$1.1 billion	5

Table 2. Top 5 Professional Service Contracts in 2003. [From: Ref. 30]

a. Geographical Outlay

According to DoD's Directorate for Information Operations and Reports, California ranked number one for receiving the greatest amount of federal government prime contract dollars in FY 2003 with more than \$28.6 billion (See Table 3 for the top ten states). The top three California counties, in descending order, were Los Angeles, San Diego, and Santa Clara. The bottom 10 states include: Vermont, Nevada, Nebraska, North Dakota, Idaho, South Dakota, West Virginia, Montana, Delaware, and Wyoming.

STATE	Rank	Total Dollars	Army Dollars	Navy Dollars	AF Dollars
California	1	\$ 28,681,090,485	\$ 3,744,789,457	\$ 7,349,197,934	\$ 12,770,709,807
Texas	2	\$ 22,867,573,690	\$ 4,810,894,771	\$ 4,943,806,554	\$ 10,256,272,021
Virginia	3	\$ 19,977,992,814	\$ 4,638,927,023	\$ 6,992,802,450	\$ 2,891,685,421
Florida	4	\$ 8,108,095,029	\$ 1,981,192,929	\$ 2,320,996,420	\$ 2,985,991,295
Connecticut	5	\$ 8,064,794,223	\$ 1,423,507,099	\$ 4,117,668,392	\$ 2,137,628,537
Maryland	6	\$ 7,569,495,832	\$ 2,324,268,740	\$ 2,779,611,990	\$ 1,220,666,846
Arizona	7	\$ 7,504,720,143	\$ 2,820,070,287	\$ 1,792,653,285	\$ 1,158,018,832
Massachusetts	8	\$ 6,799,560,608	\$ 2,040,173,856	\$ 2,676,669,826	\$ 1,652,669,147
Missouri	9	\$ 6,557,677,090	\$ 749,062,168	\$ 3,617,004,230	\$ 1,770,855,227
Alabama	10	\$ 6,281,126,533	\$ 2,339,775,772	\$ 1,033,293,631	\$ 411,374,399

Table 3. Top 10 DoD Prime Contract Awards by State-FY 2003 [From: Ref. 7]

b. Primary Contractors (2nd Quarter, CY 2004)

The following two tables identify the top five large and small federal IT awardees in the 2nd quarter of CY 2004. Over \$23 billion in IT prime contracts were awarded during this quarter, which represents a 50% increase from the same quarter in CY 2003. Small businesses received over \$451 million in set-aside contracts. The Navy awarded the greatest amount by awarding 18 awards valued at \$226 million in this quarter. The Army placed second with six awards. In total, DoD alone awarded a greater number of IT contracts than civilian agencies. However, the total value of civilian agencies exceeded DoD by \$2.8 billion.

Vendor	Contract Value \$M	Agency	Program	Competition Type
Team Keyport Services*	\$301	Navy	Professional Engineering and Business Management Services	Full and Open
Northrop Grumman	\$222	Army	Joint Analytical Support Program (JASP)	Full and Open
Titan Corporation	\$172	Army	Joint Analytical Support Program (JASP)	Full and Open
Earth Tech, Inc.	\$100	Navy	Comprehensive Long Term Environmental Action	Full and Open
Lucent Technologies, Inc.	\$75	Army	Communication Projects for the Iraqi Infrastructure Reconstruction	Full and Open

Table 4. Top 5 Large-Vendor IT Awardees-2nd Qtr 2004 [From: Ref. 30]

Vendor	Contract Value \$M	Agency	Program	Competition Type
SI International	\$800	Air Force	Engineering and Technical Support Services (C4I2TSR)	Small Business Set-Aside
ORI Services Corporation	\$199	Navy	Depot Level Technical Support	8(a) Set-Aside
Log.Sec Corporation	\$63	Army	Agency Information Technology Services and Support	Small Business Set-Aside
SpaceDev, Inc.	\$43	Defense	Advanced Concepts	Full and Open
AHTNA	\$33	Social Security Administration	Clerical Support Services for the SSA HQ Megasite	8(a) Set-Aside

Table 5. Top 5 Small Vendors IT Awardees-2nd Qtr 2004 [From: Ref. 30]

3. Projected Spending

a. General

Under the guidance of the Secretary of Defense (SECDEF), which coincides with the President's Management Agenda, DoD is undergoing a transformation that will successfully carry the organization into the next century. The intent of this transformation is to dramatically alter how DoD operates and how the military fights. Additionally, the future DoD IT environment is streamlining as the Business/Financial Management Modernization Program's architectural and system reviews are conducted. To provide focus for this vision, the SECDEF has outlined six critical operational goals. Two of these goals that involve information technology are listed below:

- Leverage information technology
- Improve and protect information operations

Since timely information is absolutely critical to military operations, the DoD Chief of Information Officer (CIO) established resource initiatives to ensure that the key elements of Network-Centric Warfare (NCW) are in place to support military missions. The term NCW is a powerful concept that allows the war fighter to access all available information on demand and bring all available assets to bear in a rapid and flexible manner. The end-state of NCW is to allow shorter decision cycles, provide near-real time connectivity, and increase computing power. See Table 6 to review the general IT expenditures for FY 2003 through FY 2005. General Tommy Franks, (Former

Combatant Commander, Central Command) validated the necessity of NCW when he stated, “The power of information has been key throughout this operation, and is truly having the effect of saving lives.”

GLOBAL INFORMATION GRID CATEGORIES (DOLLARS IN MILLIONS)			
	FY 2003	FY 2004	FY 2005
BUSINESS APPLICATIONS	\$5,364.8	\$5,214.8	\$5,030.2
WARFIGHTING/NATIONAL SECURITY SYSTEMS	\$6,377.6	\$7,012.9	\$7,784.1
SHARED INFRASTRUCTURE/INFORMATION ASSURANCE ACTIVITIES	\$14,574.4	\$15,054.7	\$14,827.9
RELATED TECHNICAL ACTIVITIES	\$1,014.8	\$959.4	\$1,075.4
DOD TOTALS	\$27,331.6	\$28,241.8	\$28,717.6

Table 6. DoD IT Expenditures [From: Ref. 36}.

b. Army

The Army’s FY 05 IT Budget is focused on implementing the Chief of Staff’s vision of a futuristic force that is lighter, more lethal, and a more agile network centric force. NCW plays a key part in the success of this vision. The tenets of the Army NCW are:

- A robustly networked Army improves information sharing
- Information sharing within the Army and with Joint, Interagency, and Multi-national interoperability (JIM) enhances the quality of information and shared situational awareness
- Shared situational awareness within the Army and with JIM enables collaboration and self-synchronization, and enhances sustainability and speed of command

The Clinger-Cohen Act and Executive Order 13011 requires the Army CIO to establish a framework to build a technology investment plan that supports the Army’s strategic mission. Through an extensive collaborative process of the Army’s multifunctional community of IT stakeholders, the Army CIO establishes a future IT investment plan that represents the best value solution. The current investment strategy highlights the following areas:

- Enterprise Enablers - Architecture, Information Assurance, and Army Knowledge Management
- Communications and Infrastructure - Battlefield Communications and Network Management, Satellite Communications, and C4/IT Infrastructure
- Functional Applications - Soldier Training, Focused Logistics, Personnel Management, and Battle-space Awareness.

Major Programs in the Army FY 2005 IT Budget	
(DOLLARS IN MILLIONS)	
Program	Dollars
Installation Information Infrastructure Modernization Program	\$362.0
Joint Tactical Radio Systems Cluster	\$323.8
Army Common Access Card/PKI/Assurance	\$285.5
Force XXI Battle Command, Brigade and Below	\$159.5
Global Combat Support Systems-Army	\$145.4
Joint Tactical Radio Systems Joint Programs	\$121.4
Warfighter Information Network-Tactical	\$99.6
Global Command and Control System	\$83.9
Army Knowledge Management	\$82.2
Advanced Field Artillery Tactical Data System	\$48.0
Army Knowledge Enterprise Architecture	\$35.6

Table 7. Major Army Programs in the FY 2005 IT Budget

c. Navy

The Department of the Navy Chief Information Officer (DON CIO) is responsible for the development of IT strategies based on Office of the Secretary of Defense (OSD) guidance, policies, plans, an enterprise architecture, standards, guidance, and process reinvention support for the Navy. The Navy's FY 2004 budget submission emphasized the following areas:

- Enterprise Architecture
- Information Assurance
- Critical Infrastructure Protection
- Privacy

In accordance with DoD's IT guidance, the DON is also focused on network-centric operations. The primary programs currently funded include:

- FORCEnet- An architectural framework that integrates soldiers, weapons, sensors, networks, and command and control into a networked combat force across the battlefield (sea, space, and land). This system will incorporate joint, allied and coalition partners.
- Navy and Marine Corps Intranet (NMCI)- Enables connection to the national infrastructure, and allows the DON to access all the resources that extend throughout the Naval Enterprise. Additionally, NMCI has allowed the DON to reduce the legacy application portfolio by 57 percent. This contract was awarded in October 2000 for \$6.9 billion and represents the largest service contract ever awarded by the DoD. Congress authorized a two-year extension of the basic five-year contract in September 2002.
- Marine Corps C4 initiatives - This supports the network-centric concept by integrating command and control nodes, sensors, and networks. Examples of the major command and control capabilities being fielded include the Common Aviation Command and Control Systems, the Unit Operations Center, and the Global Combat Support System.

Major Programs in the Navy FY 2005 IT Budget	
(DOLLARS IN MILLIONS)	
Program	Dollars
Navy and Marine Corps Internet	\$1,599.3
Navy Enterprise Resource Planning	\$209.4
Protect Information	\$178.2
Defend Systems and Networks	\$57.9

Table 8. Major Navy Programs in the FY 2005 IT Budget

d. Air Force

The Air Force is focused on creating a fully-integrated force of intelligence capabilities that communicate for real-time command and control. The Air

Force Chief of Staff's operational vision is heavily reliant on the NCW concept. This organization's high priority is focused on an IT infrastructure to support rapid and reliable information exchange that enables an efficient and lethal force.

The Air Force CIO groups the IT budget into three major spending categories: Communication Infrastructure, Combat and Business Support, and National Security Systems. The most significant growth in the FY 05 IT Budget occurs in the National Security Systems area. The planned growth is \$464 million (23%) over the FY 04 IT Budget. The Communications Infrastructure sector is expecting a \$280 million (11%) growth in FY 05.

In pursuit of an ever efficient IT infrastructure, the Air Force eliminated over 4,000 servers and freed-up 1,000 man-hours in the past two years. Their ultimate end state is a consolidated infrastructure capable of providing a reliable set of Enterprise-Wide IT Services that are globally accessible and capable of providing timely and accurate information to troops. This cost saving philosophy spills over to the way the Air Force purchases IT hardware. Last year, several major commands took the initiative to consolidate desktop and laptop purchases and their end result was a savings of over \$4 million.

Due to the Air Force's critical contributions to joint warfare, the Federal Enterprise Architecture framework is the base model they employ to ensure full compliance with the DoD IT architecture standards. Furthermore, they have ensured synchronization of the Air Force's Business Enterprise Architecture and the Air Force Infostructure Architecture with DoD's Global Information Grid.

Major Programs in the Air Force FY 2005 IT Budget	
(DOLLARS IN MILLIONS)	
Program	Dollars
Tactical Data Link	\$362.0
Combat Information Transportation System	\$169.0
Information Assurance	\$98.0
Global Broadcast System	\$53.5
Global Combat Support System	\$42.9
Integrated Logistics System	\$27.6

Table 9. Major Air Force Programs in the FY 2005 IT Budget

e. Outsourcing

Outsourcing allows organizations to focus on core missions and simultaneously cut costs. Clients and vendors are involved in long-term relations where the vendor executes the contracted duties. One implication to outsourcing is that it replaces company personnel. Therefore, natural oppositions to this concept are management barriers and political disputes.

Within the next four years, INPUT predicts that outsourcing will be the fastest growing IT segment in the Federal Government market. The growth is projected to increase from \$8.5 billion in 2003 to \$15.5 billion by 2008, an estimated annually compounded growth rate of 13%. Infrastructure services and application services are probable areas for outsourcing. Currently, these two comprise 65% of the outsourcing market.

f. Federal Enterprise Architecture (FEA)

The FEA is a legislative and executive reform based on the enterprise architecture methodology. It was established to increase efficiency, reduce complexity and cut the cost of designing, implementing and managing federal IT operations. Current estimates indicate that the Federal Government spends four times more than the private

sector for similar IT services. Years of modernizing IT without enterprise architecture has resulted in duplicate operations and systems, non-integrated systems, and costly maintenance fees. The FEA promises to halt these wasted tax dollars and, “help facilitate the creation of new applications by ensuring that existing data and applications are effectively reused and that security is built in during the development process” [Ref. 28].

As the Department of Homeland Security faces the challenges involving information sharing and integration between numerous intelligence agencies while maintaining data security, the FEA becomes increasingly critical to federal government operations. Another associated challenge facing this organization includes data sharing between the latest systems and legacy systems.

Indications show that FEA will be a guarded concept for the federal government IT future. Recently, the Office of Management and Budget enforced the mandates outlined in the FEA by temporarily denying 18 federal agencies new project funding due to non-compliance. This and other indications provide evidence that the Federal Government is transforming the way it designs, purchases, and uses IT.

4. FY 2005 Budget

Over the next several years, the demand for IT services by federal, state and local governments is expected to be one of the fastest growing markets [Ref. 26]. One reason for this speculated growth is the natural follow-up to the budget tightening years during the recent IT downturn. Due to the appealing nature of IT services’ value-added offerings to allow organizations to operate at a higher efficiency level, government offices are expected to optimize spending in this sector. Specifically, the systems integrations sector is expected to achieve significant growth [Ref. 26]. Furthermore, due to the creation of the Department of Homeland Security and increased spending by DoD, the Federal Government market looks very promising.

While some independent market analysts state a very optimistic outlook for the Federal Government IT market, others argue that a slow-down is occurring. Currently, the President’s FY 2005 budget request calls for a federal IT spending budget of \$59.8 billion for 2005, which represents only a \$700 million or 1% increase from FY 2004. Recently, at the DoD level, fund redistribution and IT enterprise consolidation programs

have increased. Therefore, budgetary numbers alone do not accurately replicate the actual spending at the agency level. Finally, it must be noted that the Department of Homeland Security's FY 2003 spending is a 47% increase from FY 2002.

5. Research Source

One of the primary sources cited for information and data in this section was collected from INPUT, a privately held company in existence since 1974. INPUT is a government market intelligence company based in Reston, Virginia. Their core business is providing market development services, advisory services, and software solutions to help new businesses and markets. INPUT's client base includes U.S. and UK vendors, governments and higher education institutions. Their products have been purchased and cited by reputable agencies similar to Standard and Poor's.

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IV. CONTRACTING ORGANIZATION SURVEY

A. GENERAL

This section presents survey results from selected contracting offices. The primary purpose of this section is to document how contracting organizations perceive risk when doing business with a small IT services company with minimal past performance and how source selection is conducted. The secondary purpose is to document how requiring organizations influence contract awards and determine their IT requirements.

B. SURVEY

1. Survey Background

The survey is provided in its entirety in Appendix A and was presented to various contracting organizations around the United States via e-mail. Initially, the *Organization and Contracting Survey* was intended to be widely distributed to as many contracting offices as possible. The primary focus was on the Army and the Navy. Installations with a division or larger operational force were selected. It must be noted that while the chosen installations are large, their purchases of IT related services are relatively low when compared to programs and Program Executive Offices within the Army and Navy (see Tables 7 and 8).

In the end, six directorates of contracting provided input and were successfully interviewed. Surveys were collected from the following locations; Fort Hood, Texas; Fort Bragg, North Carolina; Fort Drum, New York; Fort Lewis, Washington; Port Hueneme, California; and the Naval Postgraduate School, California.

The respondents were either the Chiefs of Contracting or GS-12 or higher contract specialists. Respondents were encouraged to forward the *Organization and Contracting Survey* to other contracting officers or contract specialists.

2. Organization of Survey Questions

The *Organization and Contracting Survey* was formulated after a thorough literature review was conducted. Questions were generated from discussions with contracting personnel and numerous articles and literature reviewed throughout this

research. During this literature review and research, it was determined that the most significant problems facing small IT service businesses is a lack of past performance, perceived risk by potential customers, and understanding the customer.

The main concern in developing the *Organization and Contracting Survey* was trying to keep the survey short to allow the respondents to answer all the questions within 20 minutes. Long surveys and questionnaires lose respondents' attention and greatly limit the number of respondents.

Respondents who answered the survey provided their name, position title, grade or rank, and a valid contact number and e-mail address. However, no personal information other than their location is included in the summary of questions.

3. Survey Questions and Responses

The *Organization and Contracting Survey* was designed to have respondents provide detailed information about their dealings with small IT services businesses. Survey questions were developed to obtain both quantitative and qualitative data on risk, priorities, source selection, and user requirements. Survey questions were developed with the intent of aiding the respondents in understanding the question and providing the authors with useful information.

To assist respondents, many of the questions only required them to either rank-order selected areas or provide a number on the perceived risk or importance of an area. Other questions listed examples of products and services and asked the respondents to provide the number of contracts and dollar amount their contracting offices handled for each example listed. Respondents were encouraged to provide additional information not covered in the survey or supplementary question they felt could be asked to obtain extra information.

The survey results and their significance are presented below with summary statements and quotes from selected respondents.

a. Risk

(1) Respondents were asked to provide their view of the risks when dealing with small businesses on a scale of 1 – 10 with ten being the greatest risk.

QUESTION: How risky is it to award a contract to a small business?

Responses: The average perceived risk was a 3.5.

Small Businesses may have more cash flow problems. We perform a responsibility check to determine if a small business is financially stable.

(2) Respondents were queried about past performance on a scale of 1 – 10 with ten being the greatest risk.

Question: How risky is it to award a contract to a small business with no past performance?

Responses: The average perceived risk increased to 6.75. “Past performance is always a factor for evaluation in all competed procurements.”

(3) Respondents were asked to explain how they avoided the above risks?

Question: Do you, or have you sought to avoid these risks, and if so, how?

Responses: Most respondents avoided the above risks by conducting market research into small businesses, requiring pre-award surveys, and using past performance as part of the source selection criteria.

(4) Respondents were asked to provide information regarding best methods for small businesses to win contracts.

QUESTION: What are the best ways that a Small Business software company with little or no past performance can increase its chances of being awarded a contract?

RESPONSES: Market the business to the SBA representative at the DOC. Participate in pre-solicitation conferences. Be proactive in pre-award surveys and provide a quantifiable commercial product analysis.

Partner with an established company. This helps you become recognized and establish a history with the customer.

(5) Respondents were asked to estimate the percentage of contracts awarded to small IT businesses by their organization and provide an estimate of the dollar amount.

Question: What percentage of your IT contracts is awarded to small businesses? What is the estimated dollar amount?

Responses: Army contracting organizations awarded, on average, 65% IT related contracts to small businesses. These contracts averaged \$3.5 million annually per location. The Navy contracting organizations averaged much less. On average, they awarded 20% or less IT related contracts to small businesses and had annual expenditure rate of \$605,000 per location.

(6) Respondents explained their annual success rate for meeting federally mandated programs.

Question: What is your annual success rate for achieving federally mandated programs—8a, SBA? If not successful, do you want more interaction with these companies?

Army Respondents: All Army locations met or exceeded the mandates for Small Business Woman Owned, Small Business, and Small Disadvantaged Business. On average, the Army fell short on both the mandates for using HUB Zones and Disabled Veterans by 2.5%. The typical problem the Army faces is not having enough small businesses that meet the requirements or are willing to do business with the Army. All Army respondents want more interaction with small businesses.

Navy Respondents: On average, the Navy fell short on all mandated programs. Respondents stated that NMCI prevented them from effectively utilizing small businesses due to the Navy's restrictions on IT purchases outside the NMCI program.

(7) Respondents were asked to provide their view of risk when dealing with small businesses that were also GSA Schedule holder.

QUESTION: Do you perceive less risk knowing that a Small Business is a GSA Schedule holder?

RESPONDENTS: On average, all respondents perceived less risk if a small business was also listed on the GSA Schedule.

b. Priorities

(1) In this section, respondents were asked to prioritize a given list of topics:

QUESTION: Prioritize the following categories from 1 to 4 (1-most important, 4-least important).

RESPONDENTS: On average, the respondents established the following priority list:

- Bottom-line cost of proposal
- Company past performance
- Company responsiveness to the proposal
- Quality of the company's proposal

(2) Respondents were asked to determine how important past performance is when dealing with a small business

QUESTION: How important is a personal relationship with a business when dealing with: (rate 1-10; 1 is least important)

RESPONDENTS:

- New Small Business with positive past performance: Average response was a 5.5.
- New Small Business with negative past performance: Average response was 9.2.
- New Small Business w/o past performance: Average response was an 8.8.

c. Service Requirements

(1) Respondents were queried about software service requirements.

QUESTION: What type of software services do you require? (List them, frequency, and dollar amount?)

NAVY RESPONDENTS: All of the Navy Directorates of Contracting that fall under the NMCI program had no software service requirements due to the restrictions that NMCI has in place to prevent different types of software at multiple

locations. The one Navy respondent that does not fall under NMCI stated that they had an annual subscription for software maintenance with 40 contracts totaling \$600,000.

ARMY RESPONDENTS: On average, the following requirements and expenditures:

- Interface and integration management: \$50,000 per contract
- Functional and technical engineering services: \$3.2 million/annually
- Software installation and configuration: as required \$20,000 per contract
- Help Desk services: \$2.5 million annually
- Software maintenance: \$1.5 million depends heavily on the number of computers and the size of the installation served

(2) Respondents were asked if they required services such as Managed Software Development, System Integration, and Project Staffing (See Appendix A for a more comprehensive list).

QUESTION: Do you have a need for the following services? If so, list the number of requirements and expenditures annually (for a comprehensive list see Appendix A).

NAVY RESPONDENTS:

- Application Development – Web Page design-one contract for \$225,000.
- Application Support – Two contracts totaling \$300,000.
- Custom Application Development – one contract for \$180,000.
- Project Management – one man-year totaling \$110,000.

d. Source Identification and Selection Process

(1) QUESTION: How is your source selection conducted?

RESPONDENT: On average, 50% use contracting officers for sole source selection while 40% use Source Selection Evaluation Boards (SSEB). Depending on the dollar amounts, many used both contracting officers with source selection evaluation boards. For small dollar contracts, 80% of the decisions were conducted by the contracting officer.

(2) QUESTION: Assuming all things are equal, when a purchase request lists perspective vendors, how likely is it that one of these sources will be awarded? At the very least, will the contracting officer solicit these vendors?

RESPONDENTS: On average, 80% will be awards and 90% will be solicited.

(3) QUESTION: When soliciting for a proposal what are the most popular sources used to find vendors?

RESPONDENTS: Customer suggested vendors, GSA Advantage website, past contracts, SBA Dynamic Search (formerly ProNet) website, market research, and trade shows.

(4) QUESTION: When marketing to the Federal Government list some effective mediums.

RESPONDENTS: The Internet, magazine ads related to the intended customer, and tradeshow. "Continually calling the Directorate of Contracting and asking whether there are any new procurements for bid is not a good way to help you win a contract" [sic].

(5) QUESTION: How/where do you post your solicitation?

RESPONDENTS: Through the vendors web site, Army Single Fact to Industry (ASFI), installation DOC web site, and FedBizOpps.

(6) QUESTION: Do you incentivize for subcontracting to 8a firms? If so, how many contracts and their dollar amount?

RESPONDENTS: None of the respondents incentivizes subcontracting to 8a firms.

e. Requirement Generators

(1) Respondents were asked if they had and used a list of preferred vendors to obtain products and services.

QUESTION: Do you list the preferred vendors on purchase requests? Is it safe to assume that you only list those vendors you prefer?

NAVY RESPONDENTS: For those Directorates of Contracting falling under the NMCI program, no preferred vendor list was maintained or used. All vendors have to be approved by NMCI before they can provide service to any Navy installation. However, the one Navy respondent that does not fall under NMCI does maintain and use a preferred vendor list. "The customer does list those vendors which they prefer based on past performance or knowledge of their company and expertise."

(2) Those respondents who used preferred vendor lists from the above question were asked how often preferred vendors were awarded contracts.

QUESTION: What percentage of the time do the vendors listed on purchase request normally win the award?

RESPONDENTS: On average preferred vendors were awarded the contract 80% of the time.

(3) Respondents were asked how they met their preferred vendors.

QUESTION: How or where do you find these vendors?

RESPONDENTS: Internet searches, local market research, tradeshow, word of mouth from other vendors who use them, and the SBA representative.

(4) Respondents were asked how small business might increase their exposure to government contractors and win contracts.

QUESTION: How can a new Small Business increase exposure?

RESPONDENTS: All respondents wanted businesses to understand what contracting officers needed without constant questions or explanations. They can have a better understanding by attending trade shows on the local installations.

Respond to RFOs to get your company's name known to Contracting Officers. Enroll in FedBizOpps, get a GSA Schedule, and meet the requirements of the local contracting authority for becoming involved in the contracting process.

(5) Respondents were queried if they sat on source selection boards.

QUESTION: Are you/your staff normally a member of the Source Selection Board?

RESPONDENTS: All Army respondents and the one Navy respondent not under the NMCI umbrella stated that they sat on source selection boards regularly.

(6) Respondents were asked to list their most common methods of procurement.

QUESTION: What methods of procurement do you use most often?

RESPONDENTS: GSA Fast, Open Market Corridor, Credit Card, Blanket Purchase Agreements, and FISC.

f. Additional Question Asked During Interviews

(1) QUESTION: How has the consolidation into Navy Region Southwest affected your ability to contract IT services?

RESPONDENTS:

We are required to submit our IT requirements to FISCSD for review. Our requirements are then combined with other installations. IT services must be approved by/under the NMCI contract before they can be procured.

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V. FINDINGS AND RECOMMENDATIONS

A. GENERAL

There are total of 13 findings and recommendations presented in this report. Each is categorized into one of the following categories; Priority Recommendations, Costly Recommendations, Positive External Indicators, and Low Cost Modifications. Specific definitions of each of these categories are defined in Section C. The findings and recommendations included in this report were derived from extensive review of OpalSoft's Business Plan 2003 version 1.0, January 2003, a survey of contracting officers, a survey of small businesses, countless official websites, General Accounting Office reports, independent research reports, procurement statistics, and numerous other references.

Mr. OP Choudhary, President and CEO, has a clear vision to lead this organization into the Federal Government IT market. The authors reviewed this plan carefully to grasp the organization's environment and their strategic goals (see Chapter II). When this project was accepted, OpalSoft was progressing toward these goals. Most notable of these activities include SBA's 8(a) certification and GSA schedules.

This research leads to the conclusion that OpalSoft's strategy for the Federal Government IT market is structurally sound. OpalSoft is by and large doing the right thing, at the right time with the right goals with the given assets. They should certainly continue to pursue the Federal Government market without any significant business plan modifications. The following findings and recommendations list various exploitable areas that have been uncovered during the course of this research. These findings are merely presented to OpalSoft to either reconfirm the conclusion that they are indeed on the right path or to facilitate entry into the Federal Government IT market. A caveat to this assessment is that no financial information was available for analysis.

Lastly, to solidify the quality of these findings and recommendations, it must be noted that three IT service related small businesses that cater to the Federal Government were surveyed. All three companies are registered as 8(a) firms and had contracts with

GSA. Two of these companies are on the verge of graduating out of the small business category. The third company is in the midst of the growth stage of a lifecycle model and is very satisfied with the amount of federal government contracts they are currently winning. While these companies are no longer in the introductory stage, they all have undergone the similar business experience that OpalSoft is currently enduring. These surveys were initiated over e-mail and followed-up with a telephone interview. Points of contacts were either presidents and chief executive officers or marketing directors. For security purposes, companies were informed that names and company identities would not be revealed in the final report.

B. ANSWERS TO RESEARCH QUESTIONS

1. Primary Research Question

- How can OpalSoft effectively enter into and/or expand sales to the Federal Government market?

Over the last six years, OpalSoft has managed to survive as a viable IT services small business in San Jose, California. To date, they have earned the SBA's 8(a) certification, established GSA contracts and validated 21 labor categories with GSA. These progressions indicate that OpalSoft has built a solid foundation in preparation to serve the federal IT market.

To obtain their federal government goals and objectives, OpalSoft must continue to advance forward by making additional investments. In particular, the marketing department is a critical area that has not been fully developed for the federal market. Due to their financial constraints, this new department cannot be overly burdensome. Therefore, OpalSoft must strategically identify and recruit select persons with a vast knowledge base and professional connections. Once hired, this marketing team must be placed in the most optimal location that has the greatest payoff potential. Current analysis reveals that the East Coast region ranging from Florida to Pennsylvania has the greatest concentration of military commands.

Furthermore, NMCI presents an inherent problem to small business by consolidating regional contracts. Therefore, OpalSoft should not focus specifically on the Navy. Instead, OpalSoft must broaden their scope to include the Army, the Air Force, and other government agencies such as the Department of the Homeland Security.

2. Subsidiary Research Questions

- What is a Small Business and what are the key laws and regulations that govern their participation in the Federal Government Market?

A small business is defined as one that is independently owned and operated and which is not dominant in its field of operation. For most computer-related firms, this means employing less than 1000 employees and conducting less than \$21 million in business each fiscal year.

The Federal Acquisition Regulation (FAR) established uniform policies and procedures for acquisition by all executive agencies in the government. The FAR addresses nearly all procurement-related statutes and is used in almost every state of the acquisition process.

The Federal Acquisition Streamlining Act and the Clinger-Cohen Act together made it easier for contracting officers to purchase IT related goods and services from small businesses. Both acts give smaller commands flexibility to procure IT related products and services, which in turn, allows for greater business opportunities for small businesses.

- What are some of the barriers that small businesses must overcome in order to enter the Federal Government Market?

Typically, small businesses with minimal past performance have been challenged in winning government contracts. Small businesses must compete and win contracts to establish a positive performance trend that enables them to compete better for larger government contracts. Companies should establish initial goals of winning small contracts for which they can effectively compete and build past performance trends.

Small businesses must comply with numerous government regulations and policies before they are allowed to compete for significant contracts, usually \$5 million or more. Adhering to these regulations and policies normally has associated large upfront

cost that many small businesses cannot afford. These regulations, policies, and costs negatively impact small business progressions and adversely affect their willingness to participate in the Federal Market.

C. FINDINGS AND RECOMMENDATIONS

1. Priority Recommendations

These recommendations have been identified by the authors as critical for obtaining the goals established by OpalSoft in Business Plan 2003, Version 1. These two recommendations include establishing a federal government marketing department and targeting requirement generators. These recommendations require minor modifications to the existing business plan. It requires establishing a trained, federal government focused, and strategically positioned marketing department. Without an effective marketing department, OpalSoft is extremely reliant on GSA, FedBizOpps and other reactive type tools. Recommendations in this section allow OpalSoft to aggressively seek federal government contracting opportunities as they transition into a proactive vendor.

a. Establish a Federal Government Marketing Department

According to OpalSoft Business Plan 2003, version 1.0, Alkesh Chowdhary is the Senior Vice President, Business Development and Marketing. She manages two sub departments, Sales Director and Senior Manager Business Development.

Direct marketing is their primary approach. These methods include referrals and networking at the account manager level and a customer base cultivated by the founders. Additionally, consultants working at the customer sites are also used for possible leads. In their business plan, OpalSoft specifically confirms that:

The major constraints remain the small size and ability to reach enough customers both in the private as well as the government sector. OpalSoft certainly banking on its newly acquired status of a 8(a) firm and gain assistance from the small business specialist from SBA in terms of seeking guidance in developing the markets to reach its goals [Ref. 2].

It appears that OpalSoft has not established a full-time federal government marketing department. While they have a part-time marketing agent located in the Washington, D.C. region, a full-time federal government marketing agent does not exist.

This finding reveals a possible discrepancy between OpalSoft's strategic goals of obtaining \$2.4 million of revenue by 2006 from a base of \$0 in 2002. Specifically, without an aggressive and robust marketing department, reaching this goal may pose a large challenge.

Establish a marketing section. All three surveyed companies unanimously mentioned marketing as a critical element. One company specifically stated that "face to face is key" [Ref. 29]. Two of the three companies' headquarters are located on the West Coast, but they had marketing representation in the Washington, D.C. area. The third company, located in the beltway region, stated that location has been one of the reasons for success. He identified location as one of the primary reasons that his company is able to keep abreast of the latest DoD requirements and maintain networking.

Appendices H, I, J, show all military facilities and headquarters locations in the United States. For example, reviewing these maps indicate that the majority of the large Navy activities in California are located in the vicinity of San Diego. While there are military facilities present on the California Central Coast region, due to the streamlining impact of NMCI, FISC-San Diego predominantly controls IT procurement in the California region. Therefore, the San Diego region presents an ideal location to place a marketing team for the West Coast. Similarly, the East Coast has Washington, D.C. and a large concentration of Navy installations. Ranging from Florida to Pennsylvania, there are four major Naval headquarters in this region: Pensacola, Jacksonville, Norfolk and Philadelphia.

Due to financial restrictions indicative of small businesses, one of the surveyed companies specifically states, "...seek-out military veterans capable of multi-task capability" [Ref. 29]. This money saving strategy allowed his company to safely take-on a risky venture without having to invest in a large staff. From his personal experience, this manager willingly stated that Coast Guard veterans have been most versatile. He also stated that many senior officer retirees (Colonel equivalent or higher) did not operate well in a multi-task environment due to their previous status as a senior ranking officer, "They're just not willing to get their hands dirty" [Ref. 29].

b. Target Requirements Generators

Due to the immensely complicated amounts of rules and regulations associated with federal government contracting, commercial vendors typically work very hard to appease contracting officers. While it is critical for vendors to be responsive to the contracting officers' request for proposals, vendors must also heed the needs of the requirements generators.

When requiring organizations list up to three recommended vendors on a purchase request, the users will only list those vendors desired. Similarly, businesses that previously provided inferior products or services, or have been difficult to manage have minimal likelihood of being listed. The survey findings indicate that 80% of the time a vendor listed on a purchase request typically is awarded the contract [Ref. 29]. Additionally, findings also reveal that contracting officers pay close attention to the proposed vendors listed on the purchase request and will ensure these vendors receive request for proposals.

This survey finding shows that simply establishing a working relationship with the local contracting officer will not effectively generate contract awards. Rather, marketing departments must develop relations with requirements generators in order to increase chances of receiving proposals and winning contracts. Focusing solely on the contracting officers is not an effective marketing operation.

2. Costly Recommendations

The recommendations in this category require OpalSoft to expend financial resources without significant strategic modifications to the business plan. The two recommendations are worthy investments that will certainly allow OpalSoft to gain a competitive advantage in this industry.

a. Purchase Pricing and Government Intelligence Services Offered by Companies Similar to INPUT

This survey of DoD contracting organizations show that contract pricing is the most critical element when submitting competitive proposals. Many organizations blindly bid for contracts with minimal knowledge about the customer's competitive range

and hope for “best value” to win the contract. A solution to this method is to hire a government intelligence service that can provide the competitive prices to ensure the proposal is well within the competitive range.

As of July 13, 2004, a government intelligence company named INPUT in Reston, Virginia introduced a new labor pricing service (see Appendix B). This service is available to vendors competing for federal government contracts. INPUT asserts this new service will provide their clients with the following:

- Save up to 66% of the time required in the conformance process to map labor categories across vendors, reconciling education, years of experience, clearances and other job requirements
- Leverage data from programs representing over 50% of federal IT services spending
- Gain competitive insight for head-to-head competitions
- Analyze labor rate data for quick bid turnaround
- Benchmark Schedule and GWAC pricing
- Support partnering and bid/no-bid decisions [sic][Ref. 30].

b. Obtain Security Clearances

On average, the process of obtaining a security clearance can take up to a year. Findings from the surveyed small business leaders unanimously stated that organizations having employees with security clearances have a definite advantage [Ref. 30]. A shortcut to this route is to seek former DoD or military veterans with valid security clearances.

Start obtaining security clearances for employees. Additionally, consider security clearance when hiring new employees.

3. Positive External Environment

The four recommendations listed in this section serve various purposes. First, it is intended to provide a general review of the future federal government IT expenditures. Secondly, these discussions are intended to provide specific exploitable areas for OpalSoft to focus their limited resources for optimal outcome. Finally, the authors propose further research into the specific areas listed in DoD’s strategic vision.

a. Invest Aggressively during This Pre or Early Economic Recovery Stages While the Competition Level is Minimal

Optimism appears to be the common theme for the future of IT. Standard & Poor's July 22, 2004 Industry Survey Computers: Commercial Services states, "...the prolonged slump in spending on information technology (IT) products and services may be over" [Ref. 26.p. 1]. Additionally, the Department of Commerce states, "After two years of retrenchment, IT-producing industries now show signs for resuming the dynamic role they played during 1996-2000" [Ref. 29]. This finding confirms that the federal government IT market future is promising and great potential exists for future business opportunities.

Business opportunities are abound. Invest aggressively during the pre or early recovery stages while competition is minimal and broaden the lead from the competition still awaiting a stable economy. Pursue the established goals for the federal government IT market. This may entail establishing additional staff and committing additional resources.

b. Optimize the Positive Federal Government IT Market Projections

- Large Demand - as discussed in the Federal Government Analysis section, the Federal Government is a large customer with a great demand for IT services. They are the largest consumer of integration services. Standard and Poor's IT analysis states, "Demand for IT services by government agencies at the federal, state, and local levels is projected to be among the fastest growing vertical markets over the next few years" [Ref. 15:p. 3].
- EAI - The Federal Government has initiated FEA to increase efficiency, reduce complexity, and reduce managing costs. This reform is mostly based on the EA methodology, which helps to map an organization's business process with IT systems. While the ultimate objective of this new reform is a more unified, and efficient government-wide IT infrastructure, much work is required in the near future to achieve the desired state. This represents a demand surge as the federal government emplaces a new initiative.
- SBA - The SBA is a great facilitator for small businesses. A primary reason for SBA's existence is to maintain and strengthen the nation's economy by aiding, counseling, assisting and protecting the interests of small businesses.

One of the surveyed 8(a) firms stated that the SBA has played a key role in their success and it has brought them over 90% of their contracts.

Recently, the SBA's prime contract goals for DoD increased from 20% to 23% for FY 2004. This 3% increase represents a significant opportunities for small businesses.

- Security - The federal government has always been cognizant in this area. With the occurrence of 9/11, security has been elevated to the top of the priority list. Terrorist type threats have created greater demand to protect and secure the government networks and data and network security has become a required IT function. This urgent priority for security has created business opportunities in the IT sector.
- Network Centric Warfare (NCW) - This concept was also discussed in the Federal Government analysis section, "NCW is to warfare what e-business is to business." It will significantly impact the way the government develops, plans and buys IT. DoD has stated that, "In the future, the network will be the single most important contributor to combat power" [Ref. 30:p. iii]. Interestingly, one of the surveyed companies confirmed the absolute criticality of this concept and the impact that it will have on federal IT vendors. As DoD is revolutionizing toward Joint Vision 2020, where all battlefield assets are fully synchronized, the commercial IT sector will play a significant role in the overall outcome. It has been stated that, "DoD plans to invest more in NCW-related areas of science and technology" [Ref. 30:p. iii].

In summary, the above discussions pose a positive indication that the federal IT market has an optimistic outlook. DoD is a large customer with a vision greatly reliant on IT. Furthermore, with the SBA's increased mandate, small businesses will likely receive even more contracts.

OpalSoft has the basic operational tools with GSA contracts, SBA certification, and subcontracts. OpalSoft is ready to pursue the DoD sector aggressively. For long-term contract opportunities, target new DoD initiatives (FEA and NCW).

OpalSoft must initially focus on cultivating long-term working relations with these program offices in hope of larger contracts in the future. A surveyed company stated this same strategy has provided great payoffs for his company. He called this tactic "seed wind" [Ref. 31]. He stated that as long as a company performs well, these small contracts (seeds) tend to grow. While the initial contracts offer minimal profit margins, the experience, intellectual knowledge and networking allowed them great advantages over competition. In many cases, due to their working knowledge on research type projects, his company became the only viable option for following contracts.

c. Offer the Current North American Industry Classification System (NAICS)

U.S. Small Business Administration's FY 2002 report to the U.S. Congress revealed the table below that identifies the top 10 industries out of 350 that were contracted with 8(a) firms. The analysis indicates that OpalSoft's NAICS codes (541511 and 541512) are in high demand by the federal government. The ranking indicates 2,183 actions totaling \$535,496,000.

Industries Receiving the Largest Dollar Amounts (October 1, 2001 through September 30, 2002)			
NAICS Code	NAICS Code Description	Number of Actions	\$ Value of Actions
233320	Commercial and Institutional Building Construction	4834	\$ 924,243,000
541519	Other Computer Related Services	1685	\$ 396,220,000
541512	Computer Systems Design Services	1271	\$ 336,188,000
561210	Facilities Support Services	1348	\$ 260,529,000
541710	Research and Development in the Physical, Engineering, and Life Sciences	542	\$ 239,461,000
541330	Engineering Services	1138	\$ 209,415,000
541511	Custom Computer Programming Services	912	\$ 199,308,000
514210	Data Processing Services	705	\$ 152,772,000
541611	Administrative Management and General Management Consulting Services	763	\$ 152,276,000
561612	Security Guards and Patrol Services	572	\$ 151,423,000

Table 10. Industries Receiving the Largest Dollar Amounts [From Ref. 22]

d. Expand Business Strategy to Reflect the NMCI Trend

As discussed in Section II of this report, NMCI is inducing procurement constraints to include IT services, hardware, and software throughout the Navy. Purchasing organizations are required to seek approval for all IT related products or services greater than \$25,000 and combine these purchases with the regional headquarters. These combined purchase requests create contract opportunities worth millions of dollars. Seeking the best value and best qualified company, the Navy inherently prefers to work with companies with proven past performance and are capable of fulfilling the requirements of large multi-million dollar contracts at multiple commands [Ref. 29]. This effectively reduces any likelihood of small IT businesses entering the federal market from becoming the prime contractor on major contracts.

Due to the NMCI program, IT procurement is becoming more streamlined and standardized. The ensuing effect will be a significant reduction of smaller contract opportunities for small businesses and SBA mandated partial and full set-aside contracts will see a noticeable decrease. This poses a great disadvantage to small businesses desiring to enter into the federal IT market as they will be forced to compete directly with large corporations.

Consequently, OpalSoft's current business plan states, "US Navy will be the key ...on the West coast" [Ref. 2]. In view of NMCI's goals and objectives, which adversely impacts small businesses, the U.S. Navy may not be the most ideal target market. Therefore, OpalSoft must expand the current business strategy to reflect this NMCI impact. An alternative is to look to other agencies such as the Army, the Air Force, and other federal agencies to include Homeland Security.

Subcontracting is still a viable option through NMCI. See below for regional headquarters locations. See also Appendices H, I, J, for maps of all active military facilities in the United States.

- Navy Region South West- San Diego, CA
- Navy Region NW – Bangor, WA
- Navy Region Hawaii – Pearl Harbor, HI
- Navy Region South East- Jacksonville, FL
- Navy Region Mid-Atlantic- Norfolk, VA
- Navy Region North East-Groton, CT
- Navy Region South-Corpus Christi, TX

4. Low Cost Modifications

These final recommendations are intended to provide OpalSoft with various suggestions with minor adjustments to the current business plan. These recommendations require very little financial commitment. In most cases, these recommendations may already be employed by OpalSoft, in which case, these recommendations serve to confirm the current operations.

a. Recruit Military Experience

Staff members with prior military experience have proven to be a valuable asset. Specifically, those veterans transitioning directly out of systems programs that generate IT requirements tend to be exceptionally valuable due to their current knowledge base and contacts within DoD.

Even a basic military veteran can be of value to a company. Their basic familiarity with DoD will, in some cases, be enough to generate valuable leads. Assigning these select persons to a marketing department has proven to be a valuable strategy for one of the surveyed federal IT vendors who stated that “strategic hiring” has paid extreme dividends. This company maintained close surveillance of a potential labor pool and jumped on the chance to hire them when they were available. These persons were greatly sought after due to their qualifications, personal and professional reputation, and close ties within the operating community. While this type of hiring normally takes time, these strategic employees bring with them a string of potential clients.

Informally, maintain solid networking relations with the customer workforce to maintain updated information on employee transitions. This type of situational awareness may potentially land an experienced and valuable associate. Formally, advertise on media that are popular with service members. If military experience is desired, advertise it as so.

b. Seek Indefinite Delivery/Indefinite Quantity Contracts (ID/IQ) [Ref. 32]

ID/IQ contracts are mutually beneficial to the government and the vendor. The government saves money and time by ordering from an existing contract with an established vendor. Simultaneously, vendor benefits include:

- Time savings from not having to submit proposals
- Cost savings not having to commit the labor force for proposal preparation
- Labor stabilization-companies are better able to maintain their core performers and avoid the hiring and firing associated with contracts.

Seek ID/IQ opportunities to supplement the revenue base. Exclusively targeting large contracts may lead to lost business opportunities.

c. Network through Professional Organizations

One of the surveyed small business leaders stated that, “Membership in an operating organization’s professional associations can drastically facilitate networking potential” [Ref. 32]. This is another way of either making contact with potential customers, getting an inside story, or establishing relations for corporate teaming.

Strategic hiring can also facilitate networking. One of the surveyed companies initially contracted a job to a retired government employee with a sterling reputation and a solid IT background as a consultant. Ultimately, this company hired him as a full-time employee and he greatly facilitated their networking potential [Ref. 32].

Join professional organizations to increase networking opportunities to include the San Jose Chamber of Commerce, the Better Business Bureau of San Jose and become corporate sponsors for local organizations.

d. Naval Postgraduate School Seminars

Naval Postgraduate School seminars afford a unique opportunity for small businesses to establish initial contact and make an indelible impression with future civilian and military contracting officers from the Army, the Navy, the Marine Corps, the Air Force, and numerous allied nations. It is a unique forum where OpalSoft has an opportunity to address a group of mid-level contracting officers. While these seminars are established primarily for educational purposes, OpalSoft will certainly benefit by experiencing first hand the type of questions and concerns directly from the audience of future contracting officers.

A case in point, a small IT business in San Diego, California succeeded in publicizing themselves to the student audiences over the past 18 months by actively participating in these seminars. Consequently, many of us are now very familiar with their organization, the CEO, their offerings, and past performances. Due to these seminars, chances are very likely this company will be a quick source for future IT services, hardware, and software for those that have participated in these seminars.

With exception of minor expenses (travel, time, and optional promotional items), these seminars should have minimal impact on an organization's operation. It is certainly nothing less than an investment in future business opportunities. These sessions should be viewed as a low expense-marketing tool. Potential payoffs may come in the form of either future contracts or employment opportunities.

e. Explore Alternate E-Commerce Means

FedBizOpps is the single point of entry for procurement opportunities over \$25,000. However, many local commands and government organizations are experiencing difficulties due to the sheer number of federal government users in the system [Ref. 14]. For this reason, the Navy developed NECO as an alternative to FedBizOpps. The NECO is specifically for U.S. Navy contracting. It uses many similar features as FedBizOpps, but has a greater contracting focus on the Navy.

Another e-commerce tool currently employed by the Department of the Interior and the Naval Postgraduate School is the OMC. Since it is a relatively new program, the OMC does not have as many contractors and customers in the database as compared to GSA and FedBizOpps. Thus, this situation can be viewed as an untapped resource. Registering with NECO and OMC may provide greater business opportunities.

APPENDIX A. SURVEY

I. RISK

1. How risky is it to award a contract to a Small Business?
(rate 1 to 10—higher the number the greater the perceived risk)
2. How risky is it to award a contract to a Small Business with no past performance?
(rate 1 to 10—higher the number the greater the perceived risk)
3. Do you or have you sought to avoid these risks? If so, how?
4. What are the best ways that a Small Business software company with little or no past performance can increase its chances of being awarded a contract?
5. What percentage of your IT contracts is awarded to small businesses?
-What is the estimated dollar amount?
6. What is your annual success rate for achieving federally mandated programs—8a, SBA?
-If not successful, do you want more interaction with these companies?
7. Do you perceive less risk knowing that a Small Business is a GSA Schedule holder?

II. PRIORITIES

1. Prioritize the following categories (1-most important, 4-least important)
(If there are other categories, please list and provide rating)
 ___ Quality of proposal
 ___ Bottom-line cost of proposal
 ___ Company Past Performance
 ___ Company Responsiveness
2. How important is personal relation when dealing with: (rate 1-10; 1 is least important)
 - a. New Small Business with positive past performance___
 - b. New Small Business with negative past performance___
 - c. New Small Business w/o past performance___

III. SERVICE REQUIREMENTS

1. What type of software services do you require? (List them, frequency, and dollar amount?)

2. Do you have a need for the following services?
 - How many requirements per year?
 - Approximately what dollar amount per year?

Managed Software Development

Fully managed software development services. These projects range from e-Business and web-based applications to enterprise solutions. With the following areas of focus:

- Product Engineering
- Application Development
- Re-Engineering Legacy Applications
- Application Support

System Integration

Leverage technology skills, domain knowledge, system integration expertise and strong partnerships with technology vendors to implement customized solutions utilizing the best-in-class technology. Highly experienced professionals to maximize IT investments by making complex technologies work together for a seamless enterprise-wide information system.

- Custom application development
- Package customization and integration
- Hardware and software component integration
- Application maintenance/ customization/ enhancement
- Solution deployment and project management

Project Staffing

Flexible staffing solutions to worldwide locations that require technical expertise on demand. The technology professionals, are either on a contract, contract-to-hire or full-time basis.

- Business Analysis
- Project Management
- Systems Analysis
- Software Engineering
- Database Design
- Network Administration
- Database Administration
- Quality Assurance

IV. SOURCE IDENTIFICATION and SELECTION PROCESS

1. How is your source selection conducted? **KO** or **SSEB**

2. Assuming all things equal, when a purchase request lists perspective vendors, how likely is it that one of these sources will be awarded?

-At the very least, will the KO solicit these vendors?

3. When soliciting for a proposal:

-What are the most popular sources used to find sources?

4. When marketing to the Federal Government:

-List some effective mediums (-i.e., tradeshow, magazines, internet...)

-List some ineffective mediums

5. How/where do you post your solicitation? (Other than FEDBIZ OPS?)

6. Do you incentivize for subcontracting to 8a firms?

-How many contracts and how many in dollars?

-If yes, what do you state on Sections L and M?

-How do you incentivize?

-If no, why?

V. REQUIREMENT GENERATORS

1. Do you list the preferred vendors on purchase requests?

-on average, is it safe to assume that you only list those vendors you prefer?

2. What percentage of the time do the vendors listed on purchase request normally win the award?

3. How or where do you find these vendors? (-i.e., tradeshow, magazines, internet...)

4. How can a new Small Business increase exposure?

5. Are you/your staff normally a member of the Source Selection Board?

6. What methods of procurement do you use most often?

**Are there any questions that were not asked that you deem pertinent to this issue Small Business?

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APPENDIX B. INPUT MARKET INTELLIGENCE FLYER

**Government Market Intelligence**



Federal Agency Profiles

A strategic and tactical perspective on the technology programs, contracts, budgets, and issues shaping the major agencies throughout the federal government

BENEFITS

A one-stop resource for:

- Understanding how agencies & the government as a whole allocate their IT budget dollars
- Gaining insight into the federal marketplace and knowing where the money is going
- Analyzing FPDC data with an intuitive and easy to use ability to breakout IT spending statistics
- Targeting your GWACs and contracting services at the government programs that need them

OVERVIEW

For over 45 federal departments, agencies, and offices, our profile coverage provides you access to:

- Detailed source for agency IT organizational structures, issues, and plans
- Organized federal technology budget data
- Total federal, defense and civilian spending statistics by contract, contractor, product type and geographically

Each profile contains:

- Organizational structures and key contacts
- Program activities
- IT budgets, analysis, and 5-year spending forecasts
- Acquisition profiles showing historical spending patterns
- Top contractors and key contracts
- Links to related news articles and other on-line resources
- Electronic library of related documents

AGENCIES

Defense Agencies include:

- Air Force
- Defense Finance and Accounting Service
- Defense Information Systems Agency
- Office of Secretary of Defense
- Defense Logistics Agency

Civilian Departments include:

- Agriculture
- Homeland Security
- Health and Human Services
- State
- Transportation
- Energy

Civilian Agencies include:

- Internal Revenue Service
- National Institutes of Health
- Office of Homeland Security
- Office of Personnel Management
- Transportation Security Administration
- Patent & Trademark Office

INPUT, 11951 Freedom Drive, Suite 1000, Reston, VA 20190
Tel. (703) 707-3500 • Fax (703) 707-6201 • www.input.com • info@input.com

Figure 6. INPUT Government Marketing Intelligence Flyer. [From: Ref. 30]

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APPENDIX C. DOD INSTALLATIONS IN CALIFORNIA

(California Institute for Federal Policy Research; Data from Department of Defense, Base Structure Report, Fiscal Year 2003 Baseline)

Location	Component	Nearest City	Zip Code	Total Acres	Personnel
Concord-CA-0696A	Army Active	Clyde	94520	6,100	
Def Distr Reg West Sharpe Site	Army Active	Stockton	95231	724	23
Def Distr Reg West Tracy	Army Active	Tracy	95376	908	18
East Fort Baker	Army Active	San Francisco	94123	91	
Fort Ord	Army Active	Seaside	93955	12,272	
NTC and Fort Irwin	Army Active	Barstow	92310	636,250	5,211
Oakland Army Base	Army Active	Oakland	94626	396	
POM Annex	Army Active	Seaside	93955	1,115	
Presidio Of Monterey	Army Active	Monterey	93944	392	1,512
Rio Vista USARC	Army Active	Rio Vista	94571	28	
Riverbank AAP	Army Active	Riverbank	95367	172	
Sacramento Army Depot	Army Active	Sacramento	95813	48	
SAT COM	Army Active	Paso Robles	93431	23	54
Sierra Army Depot	Army Active	Reno	96113	96,129	593
Silas B. Hays	Army Active	Seaside	93955	24	18
Camp Morena	Army Guard	Campo	91906	62	
Fresno	Army Guard	Fresno	93727	48	351
Long Beach	Army Guard	Long Beach	90822	20	548
MTA Camp Roberts	Army Guard	San Miguel	93451	42,362	309
MTA Camp San Luis Ob	Army Guard	San Luis Obispo	93403	4,100	339
NG Hammer Field	Army Guard	Fresno	93727	30	230
Sacramento Depot Activity	Army Guard	Sacramento	95828	22	
TS AFRC Los Alamitos	Army Guard	Los Alamitos	90720	2,676	2,413
BT Collins USARC	Army Reserve	Sacramento	95828	38	972
Fort Hunter Liggett	Army Reserve	King City	93928	164,272	167
Hwd Of Oakland USARC/AMSA 85	Army Reserve	Oakland	94626	38	203
March USARC	Army Reserve	Moreno Valley	92518	21	769
Moffett Community Hsg	Army Reserve	Mountain View	94035	141	
Parks Reserve Forces Tng Area	Army Reserve	Richmond	94568	2,705	1,466
Patton Hall USARC	Army Reserve	Bell	90201	21	488
Tustin USARC	Army Reserve	Santa Ana	92606	12	418
Beale AFB	AF Active	Marysville	95903	22,944	4,572
Davis Communications Annex	AF Active	Davis	95616	316	
Edwards AFB	AF Active	Rosamond	93524	300,723	6,358
Fort Macarthur Family Hsg Annex	AF Active	San Pedro	90731	156	
Lincoln Communications Annex	AF Active	Lincoln	95648	231	
Los Angeles AF Annex No 3	AF Active	Manhattan Beach	90266	13	
Los Angeles AFB	AF Active	El Segundo	90245	102	2,536
Onizuka AFS	AF Active	Sunnyvale	94088	23	318
Ozol Defense Fuel Support Point	AF Active	Martinez	94553	76	
Pillar Point AFS	AF Active	Half Moon Bay	94019	55	
Production Flight Test Instl AF Plant	AF Active	Palmdale	93550	6,131	36
Travis AFB	AF Active	Fairfield	94535	6,383	11,730
Travis Water System Annex No 2	AF Active	Elmira	95625	206	
Tulelake Radar Site	AF Active	Newell		928	
Vandenberg AFB	AF Active	Lompoc	93437	115,513	3,864
Channel Islands ANG Station	Air Natl Guard	Oxnard	93041	206	1,255
Fresno Yosemite Intl	Air Natl Guard	Fresno	93727	126	976
Hayward Municipal Airport ANG	Air Natl Guard	Hayward	94545	44	295
Moffett Fld ANG	Air Natl Guard	Sunnyvale	94035	142	883
Ontario Intl Airport ANG	Air Natl Guard	Ontario	91761	11	5
San Diego ANG Station	Air Natl Guard	San Diego	92111	24	128
Sepulveda National Guard Station	Air Natl Guard	Van Nuys	91406	26	132
Norwalk Defense Fuel Support Point	AF Reserve	Norwalk	90650	55	
MCAGCC Twentynine Palms	USMC Active	Twentynine	92278	605,616	10,325
MCAS Camp Pendleton	USMC Active	Camp Pendleton	92055	411	5,382

(California Institute for Federal Policy Research; Data from Department of Defense, Base Structure Report, Fiscal Year 2003 Baseline)

Location	Component	Nearest City	Zip Code	Total Acres	Personnel
MCAS El Toro Santa Ana	USMC Active	El Toro	92709	4,862	5
MCAS Miramar	USMC Active	San Diego	92145	22,941	9,192
MCAS Tustin	USMC Active	Tustin	92710	1,383	83
MCAS Yuma AZ (Multi-Sites)	USMC Active			459,506	
MCB Camp Pendleton	USMC Active	Camp Pendleton	92055	187,075	30,275
MCLB Barstow	USMC Active	Barstow	92311	6,177	1,474
MCRD WRR San Diego	USMC Active	San Diego	92140	505	1,490
Alameda NAS CSO	Navy Active	Alameda	94501	2,791	120
CBC Port Hueneme CA (Multi-Sites)	Navy Active	Port Hueneme	93043	6,383	8,481
CSO Hunters Point Annex	Navy Active	Hunters Point	94627	922	
CSO NCEL Pt Hueneme	Navy Active	Port Hueneme	93043	33	
CSO NS Treasure Island	Navy Active	San Francisco	94130	1,076	1
CSO NSY Mare Island	Navy Active	Mare Island	94592	6,735	4
CSO NTC San Diego	Navy Active	San Diego	92133	165	
CSO PWC San Francisco	Navy Active	San Francisco	94130	640	28
FCTCPAC San Diego	Navy Active	San Diego	92147	91	1,145
FISC San Diego (NWCF)	Navy Active	San Diego	92132	254	630
FLEASWTRACEN	Navy Active	San Diego	92147	45	636
Long Beach NS CSO	Navy Active	Long Beach	90822	894	107
Long Beach NSY CSO	Navy Active	Long Beach	90822	560	
NAF El Centro	Navy Active	El Centro	92243	62,542	411
NAS Lemoore	Navy Active	Lemoore	93246	39,173	6,565
NAS North Island San Diego (Multi Sites)	Navy Active	San Diego	92135	48,786	18,704
NAVAIRWPNSTA, China Lake	Navy Active	China Lake	93555	1,132,917	4,278
Naval Postgraduate School	Navy Active	Monterey	93943	623	1,584
NAVBASE San Diego	Navy Active	San Diego	92132	2,249	34,921
NAVCOMTELSTA San Diego	Navy Active	San Diego	92135	3,336	563
NAVFAC Centerville Beach	Navy Active	Ferndale	95536	49	
NAVHOSP Camp Pendleton	Navy Active	Camp Pendleton	92055	187	2,073
NAVMEDCEN San Diego	Navy Active	San Diego	92134	79	4,607
NAVPETOFF Alexandria VA (Multi-Sites)	Navy Active			475	
NAVSECGRUACT Skaggs Is	Navy Active	Skaggs Island	95476	3,309	1
NAVSTA San Diego	Navy Active	San Diego	92136	1,497	2,866
NAVWPNSTA Seal Beach	Navy Active	Seal Beach	90740	26,564	862
NIROP Sunnyvale CA (Multi-Sites)	Navy Active	Sunnyvale	94088	343	103
NWASTA Corona	Navy Active	Corona	91718	247	860
Oakland FISC CSO	Navy Active	Oakland	94625	1,103	61
Oakland NH CSO	Navy Active	Oakland	94627	183	
SPAWARSSYSCEN	Navy Active	San Diego	92152	1,238	4,911
SUBASE San Diego	Navy Active	San Diego	92106	336	923
SWNAVFACENGCOM San Diego (Multi-Sites)	Navy Active	San Diego		647	1,115
NAVMARCORESCEN Alameda	Navy Reserve	Alameda	94501	15	321
NAVMARCORESCEN Los Angeles	Navy Reserve	Los Angeles	90012	11	323
NAVMARCORESCEN Los Angeles	Navy Reserve	Long Beach	90731	23	34
Other Sites *				9,630	33,622
CA Total:					238,276
US Domestic Total					1,723,670
World Wide Total					1,982,587
CA as a Percentage of US Domestic Total				16.50%	13.80%
CA as a Percentage of World Wide Total				16.50%	12%

Table 11. California's Department of Defense Installations, 2003. [From: Ref. 33]

APPENDIX D. DOD INSTALLATIONS: CALIFORNIA SUMMARY

Number of Department of Defense Installations, 2003

California Share Summary

(SOURCE: California Institute for Federal Policy Research; Data from Department of Defense, Base Structure Report, Fiscal Year 2003 Baseline)

Data Totals, All Military Service Branches	Number of DOD Installations by Size			
	Large	Medium	Small	Total
California	18	11	293	322
United States	95	95	5,714	5,904
US Territories	5	1	90	96
Foreign	15	19	668	702
Total Worldwide	115	115	6,472	6,702
California Share of U.S. Domestic	18.9%	11.6%	5.1%	5.5%
California Share of U.S. Worldwide	15.7%	9.6%	4.5%	4.8%

Summary Data by Military Service Branch	Number of DOD Installations by Size			
	Large	Medium	Small	Total
California Facilities				
Army	3	1	189	193
Navy	8	6	43	57
Air Force	4	2	55	61
USMC	3	2	6	11
Total California Facilities	18	11	293	322
U.S. Domestic Facilities				
Army	37	33	4080	4150
Navy	20	29	366	415
Air Force	31	29	1230	1290
USMC	7	4	38	49
Total U.S. Domestic Facilities	95	95	5714	5904
U.S. Worldwide Facilities				
Army	38	41	4452	4531
Navy	25	33	401	459
Air Force	38	36	1491	1565
USMC	9	4	38	51
Total U.S. Worldwide Facilities	110	114	6382	6606
California Share of U.S. Domestic Facilities				
Army	8.1%	3.0%	4.6%	4.7%
Navy	40.0%	20.7%	11.7%	13.7%
Air Force	12.9%	6.9%	4.5%	4.7%
USMC	42.9%	50.0%	15.8%	22.4%
California Share of Total U.S. Domestic Facilities	18.9%	11.6%	5.1%	5.5%
California Share of U.S. Worldwide Facilities				
Army	7.9%	2.4%	4.2%	4.3%
Navy	32.0%	18.2%	10.7%	12.4%
Air Force	10.5%	5.6%	3.7%	3.9%
USMC	33.3%	50.0%	15.8%	21.6%
California Share of Total U.S. Worldwide Facilities	16.4%	9.6%	4.6%	4.9%

Large Installation = Total PRV greater than or equal to \$1.5B

Medium Installation = Total PRV less than \$1.5B and greater than or equal to \$800M

Small Installation = Total PRV less than \$800M and greater than 0

Records with zero or null PRVs are not counted - primarily land records or state owned locations

PRV (\$M): Total Plant Replacement Value (PRV) for all facilities records (buildings, structures and utilities) used by DOD, to include those facilities that are not owned by DoD, such as state, NATO or foreign-owned, which show a PRV in the database. This reported value is the cost to replace the current physical plant (facilities and supporting infrastructure) using today's construction costs (labor and materials) and standards (methodologies and codes).

SOURCE: California Institute for Federal Policy Research analysis of Department of Defense Base Structure Report, Fiscal Year 2003 Baseline.

Figure 7. Number of Department of Defense Installations, 2003, California Share Summary. [From: Ref. 33]

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APPENDIX E. AIR FORCE TOP 50 COMPANIES

TABLE 4 - AIR FORCE TOP 50 COMPANIES AND CATEGORY OF PROCUREMENT - FISCAL YEAR 2003					
RANK	COMPANY NAME	TOTAL \$	RDT&E \$	OTHER SERVICES \$	SUPPLIES \$
	TOTAL AIR FORCE (DD350 REPORTS)	\$ 55,422,837,407	\$ 9,446,114,365	\$ 20,329,394,361	\$ 25,647,328,681
	TOTAL AIR FORCE TOP 50	\$ 43,920,636,637	\$ 8,146,169,429	\$ 13,190,954,453	\$ 22,583,512,755
1	LOCKHEED MARTIN CORPORATION	\$ 12,615,679,864	\$ 2,821,206,333	\$ 2,910,497,925	\$ 6,883,975,606
2	BOEING COMPANY, THE	9,116,306,229	1,502,603,202	619,003,130	6,994,699,897
3	NORTHROP GRUMMAN CORPORATION	4,908,242,728	1,337,350,158	1,674,442,543	1,896,450,027
4	UNITED TECHNOLOGIES CORPORATIO	2,084,980,628	102,485,264	20,649,032	1,961,846,332
5	RAYTHEON COMPANY	1,604,694,663	125,078,366	406,022,915	1,073,593,382
6	NORTH AMERICAN AIRLINES	1,194,932,415	-	1,194,932,415	-
7	FEDEX CORP	1,034,623,337	-	1,034,623,337	-
8	GENERAL DYNAMICS CORPORATION	954,787,245	113,366,102	479,047,912	362,373,231
9	L-3 COMMUNICATIONS HOLDING, INC	924,956,533	88,263,586	181,282,338	655,410,609
10	COMPUTER SCIENCES CORPORATION	859,808,611	23,902,906	821,474,249	14,431,456
11	B A E SYSTEMS PLC	564,086,763	147,766,720	96,534,376	319,785,667
12	AEROSPACE CORPORATION	539,308,700	539,308,700	-	-
13	SCIENCE APPLICATIONS INTERNAT	514,010,372	141,985,864	363,590,873	8,433,635
14	MASSACHUSETTS INSTITUTE OF TEC	500,279,744	499,661,720	618,024	-
15	GENERAL ELECTRIC COMPANY	448,273,115	15,349,779	5,865,331	427,058,005
16	HONEYWELL INTERNATIONAL INC	413,804,501	14,574,879	148,409,378	250,820,244
17	VERITAS CAPITAL MANAGEMENT LLC	402,501,606	-	285,936,468	116,565,138
18	ITT INDUSTRIES, INC	397,042,332	84,163,579	193,686,283	119,192,470
19	JOHNSON CONTROLS, INC	383,757,787	-	383,428,307	329,480
20	JACOBS ENGINEERING GROUP INC	351,826,372	156,229,953	193,413,253	2,183,166
21	ENGINEERED SUPPORT SYSTEMS INC	276,212,071	-	31,711,215	244,500,856
22	CHUGACH ALASKA CORPORATION	267,236,990	-	267,236,990	-
23	LEAR SIEGLER LOGISTICS INTERNA	252,058,916	-	236,174,122	15,884,794
24	ROCKWELL COLLINS, INC.	237,804,992	26,490,188	10,091,863	201,222,941
25	CH2M HILL COMPANIES, LTD	195,341,259	-	195,294,259	47,000
26	MITRE CORPORATION	186,720,776	186,720,776	-	-
27	DELL INC	178,364,715	-	1,162,784	177,201,931
28	GENERAL ATOMIC TECHNOLOGIES	176,343,866	24,936,887	12,205,045	139,201,934
29	GOODRICH CORPORATION	172,241,548	3,539,106	1,313,699	167,388,743
30	TEXTRON INC	159,977,229	17,930,624	13,317,132	128,729,473
31	TITAN CORPORATION,THE	157,166,174	10,451,622	125,148,372	21,566,180
32	CARLYLE GROUP	148,905,687	-	140,896,650	8,009,037
33	URS CORPORATION	137,471,362	288,407	137,182,955	-
34	HARRIS CORPORATION	133,541,611	15,817,588	89,119,358	28,604,665
35	PARSONS CORPORATION	127,376,750	-	127,376,750	-
36	MOTOROLA, INC	109,598,077	-	6,120,228	103,477,849
37	MTC TECHNOLOGIES INC	99,609,170	3,017,728	69,172,347	27,419,095
38	AEROSPACE CENTER SUPPORT	98,797,891	98,797,891	-	-
39	UNITED INDUSTRIAL CORPORATION	96,289,915	6,954,035	3,399,841	85,936,039
40	TYBRIN CORPORATION	94,352,700	-	94,352,700	-
41	CABINET OFFICE	86,447,554	-	86,447,554	-
42	GTSI CORP	83,730,215	-	1,437,734	82,292,481
43	COMPUTER SCIENCES RAYTHEON	81,322,345	-	81,322,345	-
44	BERKSHIRE HATHAWAY, INC	80,608,775	-	78,270,017	2,338,758
45	TYCO INTERNATIONAL LTD.	80,036,724	9,849,253	64,493,854	5,693,617
46	BOOZ ALLEN HAMILTON INC	79,683,149	7,187,102	70,842,764	1,653,283
47	ARINC, INCORPORATED	79,672,826	-	77,054,695	2,618,131
48	DYNAMICS RESEARCH CORPORATION	79,533,216	427,749	79,103,161	2,306
49	ROLLS-ROYCE GROUP PLC	75,724,820	20,463,362	2,686,161	52,575,297
50	AIR TRANSPORT INTERNATIONAL LL	74,561,769	-	74,561,769	-

Figure 8. Air Force Top 50 Companies. [From: Ref. 34]

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APPENDIX F. ARMY TOP 50 COMPANIES

TABLE 4 - ARMY TOP 50 COMPANIES AND CATEGORY OF PROCUREMENT - FISCAL YEAR 2003					
RANK	COMPANY NAME	TOTAL \$	RDT&E \$	OTHER SERVICES \$	SUPPLIES \$
TOTAL ARMY (DD350 REPORTS)		\$ 60,495,781,099	\$ 9,614,359,636	\$ 29,309,754,269	\$ 21,571,667,194
TOTAL ARMY TOP 50		\$ 30,578,928,714	\$ 6,839,529,471	\$ 11,023,622,976	\$ 12,715,776,267
1	HALLIBURTON COMPANY	\$ 3,731,725,648	\$ 1,541,785,360	\$ 2,189,924,671	\$ 15,617
2	LOCKHEED MARTIN CORPORATION	2,611,236,476	1,067,859,563	341,477,190	1,201,899,723
3	RAYTHEON COMPANY	2,192,538,641	533,781,169	436,410,116	1,222,347,356
4	GENERAL DYNAMICS CORPORATION	2,091,866,468	196,783,064	529,872,875	1,365,210,529
5	BOEING COMPANY, THE	1,760,266,261	387,585,512	82,771,718	1,289,909,031
6	NORTHROP GRUMMAN CORPORATION	1,534,494,812	275,309,087	799,236,072	459,949,653
7	UNITED TECHNOLOGIES CORPORATION	1,050,072,843	8,851,145	13,745,173	1,027,476,525
8	COMPUTER SCIENCES CORPORATION	890,919,930	204,311,635	598,005,425	88,602,870
9	BOEING SIKORSKY COMANCHE TEAM	773,900,374	773,900,374	-	-
10	CARLYLE GROUP	736,272,981	306,371,100	54,320,580	375,581,301
11	SCIENCE APPLICATIONS INTERNATIONAL	692,892,850	112,605,263	544,855,019	35,432,568
12	ITT INDUSTRIES, INC	647,261,655	140,231,595	249,690,799	257,339,261
13	GM GDLS DEFENSE GROUP LLC, JOI	635,103,911	124,651,469	1,691,263	508,761,179
14	STEWART & STEVENSON SERVICES,	614,145,013	-	11,827,378	602,317,635
15	GENERAL ELECTRIC COMPANY	611,616,226	132,579,706	50,037,761	428,998,759
16	PARSONS CORPORATION	538,510,791	3,348,885	535,113,906	48,000
17	RENCO GROUP INC	534,759,060	10,245,283	9,397	524,504,380
18	ALLIANT TECHSYSTEMS INC	438,738,628	79,753,305	68,693,195	290,292,128
19	OSHKOSH TRUCK CORP	438,575,538	15,076,850	1,686,271	421,812,417
20	B A E SYSTEMS PLC	417,768,685	200,130,308	75,012,699	142,625,678
21	L-3 COMMUNICATIONS HOLDING, INC	408,122,712	72,070,943	164,393,419	171,658,350
22	KELLOGG BROWN & ROOT SERVICES,	398,836,905	395,175,874	3,661,031	-
23	MORRISON KNUDSEN CORPORATION	384,326,018	(479,710)	384,805,728	-
24	HONEYWELL INTERNATIONAL INC	382,714,192	21,577,502	5,824,767	355,311,923
25	SHAW GROUP INC	346,928,258	35,556,738	311,371,520	-
26	FLUOR CORP	321,213,652	-	321,108,652	105,000
27	GOODYEAR TIRE & RUBBER COMPANY	316,954,235	557,222	-	316,397,013
28	DELL INC	306,797,185	-	7,224,229	299,572,956
29	FEDERAL REPUBLIC OF GERMANY	284,199,486	-	284,199,486	-
30	TITAN CORPORATION,THE	274,859,003	53,256,587	210,226,485	11,375,931
31	GOVERNMENT OF CANADA	271,816,733	41,056,503	23,697,858	207,062,372
32	ALLIANT LAKE CITY SMALL CALIBE	271,400,826	4,077,876	4,542,031	262,780,919
33	MITRE CORPORATION	259,171,477	(331,671)	259,503,148	-
34	ENGINEERED SUPPORT SYSTEMS INC	238,974,029	11,520,143	93,618,374	133,835,512
35	Longbow Limited Liability Company	238,232,745	12,975,793	1,995,905	223,261,047
36	URS CORPORATION	230,234,118	47,749,734	182,970,031	(485,647)
37	COMBAT SUPPORT ASSOCIATES	225,529,151	-	225,529,151	-
38	BECHTEL GROUP, INC	225,501,317	-	225,501,317	-
39	PUBLICIS GROUPE S.A.	222,520,661	-	222,520,661	-
40	WALLENIUS WILHELMSEN LINES AB	217,118,528	-	217,118,528	-
41	CONTRACT INTERNATIONAL INC	206,091,049	-	203,189,431	2,901,618
42	TETRA TECH INC	204,754,482	31,934	204,722,548	-
43	ARINC, INCORPORATED	189,683,651	25,720,222	156,532,279	7,431,150
44	INTERNATIONAL BUSINESS MACHINE	179,402,917	1,505,276	164,613,690	13,283,951
45	JOHNSON CONTROLS, INC	178,525,283	-	177,533,039	992,244
46	HARRIS CORPORATION	176,608,643	2,181,114	21,838,375	152,589,154
47	EUROPEAN UTILITY COMPANIES	172,703,748	-	172,703,748	-
48	GREAT LAKES DREDGE & DOCK CORP	171,985,747	-	171,985,747	-
49	MOTOROLA, INC	165,927,583	(27,572)	7,296,903	158,658,252
50	THALES	165,127,589	194,290	9,013,387	155,919,912

Figure 9. Army Top 50 Companies. [From: Ref. 34]

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APPENDIX G. NAVY TOP 50 COMPANIES

TABLE 4 - NAVY TOP 50 COMPANIES AND CATEGORY OF PROCUREMENT - FISCAL YEAR 2003					
RANK	COMPANY NAME	TOTAL \$	RDT&E \$	OTHER SERVICES \$	SUPPLIES \$
TOTAL NAVY (DD350 REPORTS)		\$ 56,633,761,304	\$ 10,558,735,254	\$ 22,344,768,031	\$ 23,730,258,019
TOTAL NAVY TOP 50		\$ 38,073,478,274	\$ 8,793,397,856	\$ 10,343,972,035	\$ 18,936,108,383
1	LOCKHEED MARTIN CORPORATION	\$ 6,480,880,467	\$ 3,492,584,858	\$ 1,072,120,248	\$ 1,916,175,361
2	GENERAL DYNAMICS CORPORATION	4,969,947,567	404,041,764	1,162,370,598	3,403,535,205
3	BOEING COMPANY, THE	4,325,255,280	372,134,976	492,008,169	3,461,112,135
4	NORTHROP GRUMMAN CORPORATION	4,075,877,176	1,129,921,152	639,764,109	2,306,191,915
5	RAYTHEON COMPANY	3,757,054,047	568,111,957	656,624,472	2,532,317,618
6	GENERAL ELECTRIC COMPANY	1,564,516,607	275,304,846	33,333,268	1,255,878,493
7	UNITED TECHNOLOGIES CORPORATION	1,281,528,458	602,083,427	94,838,989	584,606,042
8	BELL BOEING JOINT PROGRAM	986,978,469	338,056,919	40,637,236	608,284,314
9	CARLYLE GROUP	777,786,617	3,741,832	556,900,816	217,143,969
10	B A E SYSTEMS PLC	764,435,031	51,318,237	376,889,343	336,227,451
11	GOVERNMENT OF THE UNITED STATES	732,154,995	129,591	2,160,499	729,864,905
12	SCIENCE APPLICATIONS INTERNATIONAL	606,358,720	111,127,182	479,605,820	15,625,718
13	BECHTEL GROUP, INC	574,651,781	398,644,995	63,224,123	112,782,663
14	ELECTRONIC DATA SYSTEMS CORP	452,993,834	55,643	455,906,200	(2,968,009)
15	TEXTRON INC	433,668,849	209,743,736	11,882,633	212,042,480
16	L-3 COMMUNICATIONS HOLDING, INC	423,912,463	10,179,069	158,741,341	254,992,053
17	COMPUTER SCIENCES CORPORATION	358,095,878	33,707,575	311,058,378	13,329,925
18	ANTEON INTERNATIONAL CORPORATION	329,036,838	43,380,314	242,893,394	42,763,130
19	HOPKINS JOHNS UNIVERSITY	269,955,052	261,518,072	8,436,980	-
20	VERITAS CAPITAL MANAGEMENT LLC	268,825,598	-	243,150,588	25,675,010
21	HONEYWELL INTERNATIONAL INC	258,554,102	26,411,902	103,257,038	128,885,162
22	TITAN CORPORATION, THE	247,805,501	56,710,253	176,571,452	14,523,796
23	CACI INTERNATIONAL INC	220,710,292	26,197,429	193,507,818	1,005,045
24	BOOZ ALLEN HAMILTON INC	215,111,472	458,703	202,136,685	12,516,084
25	ROLLS-ROYCE GROUP PLC	209,991,561	90,311,664	38,988,293	80,691,604
26	A P MOLLER GRUPPEN	199,788,712	-	199,788,712	-
27	EARL INDUSTRIES, LLC	193,191,743	-	193,147,103	44,640
28	URS CORPORATION	192,865,052	38,728,039	152,733,134	1,403,879
29	CHARLES STARK DRAPER LABORATOR	179,420,400	33,866,225	111,349,924	34,204,251
30	OCEAN SHIPHOLDINGS, INC	177,656,697	-	78,507,153	99,149,544
31	TETRA TECH INC	161,881,891	-	161,881,891	-
32	OSHKOSH TRUCK CORP	160,999,615	-	1,870,974	159,128,641
33	HALLIBURTON COMPANY	156,691,418	-	156,691,418	-
34	PENNSYLVANIA STATE UNIVERSITY	150,571,584	148,530,333	2,041,251	-
35	ATLANTIC MARINE HOLDING CO	142,131,467	-	142,131,467	-
36	JOHNSON CONTROLS, INC	140,702,079	935,500	139,360,149	406,430
37	METRO MACHINE CORPORATION	137,987,313	-	131,874,464	6,112,849
38	CHUGACH ALASKA CORPORATION	133,091,517	4,282,291	128,809,226	-
39	ROCKWELL COLLINS, INC.	131,342,289	2,836,511	1,824,301	126,681,477
40	ITT INDUSTRIES, INC	126,415,355	37,274,209	71,884,694	17,256,452
41	SODEXHO ALLIANCE	123,764,358	-	123,764,358	-
42	WHITING-TURNER CONTG CO INC	118,039,962	-	118,039,962	-
43	MANTECH INTERNATIONAL CORP	117,925,062	12,203,025	99,380,004	6,342,033
44	VSE CORPORATION	112,555,223	-	111,157,273	1,397,950
45	PHILIPP HOLZMANN AG	111,924,803	-	111,924,803	-
46	GOVERNMENT OF CANADA	107,532,623	5,340,195	9,151,284	93,041,144
47	MOTOROLA, INC	105,694,705	-	1,168,577	104,526,128
48	RCI HOLDING CORPORATION.	103,849,351	-	101,916,550	1,932,801
49	TODD SHIPYARDS CORPORATION	102,739,725	-	102,723,561	16,164
50	INTERNATIONAL BUSINESS MACHINES	98,628,675	3,525,432	73,841,312	21,261,931

Figure 10. Navy Top 50 Companies. [From: Ref. 34]

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APPENDIX H. MAP OF ARMY INSTALLATIONS

Army Installations - 2002

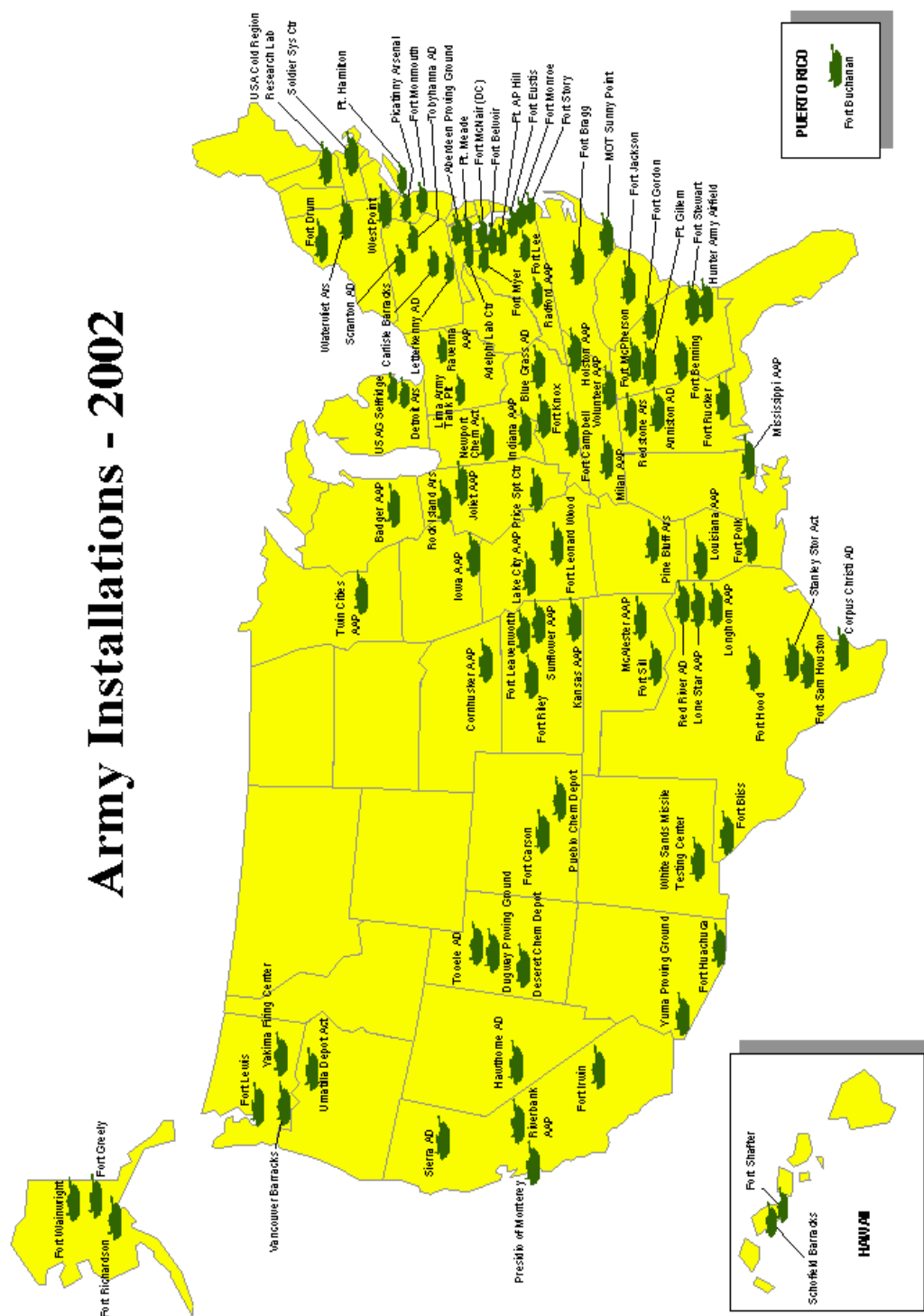


Figure 11. Map of Army Installations. [From: Ref. 35]

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APPENDIX I. MAP OF AIR FORCE INSTALLATIONS

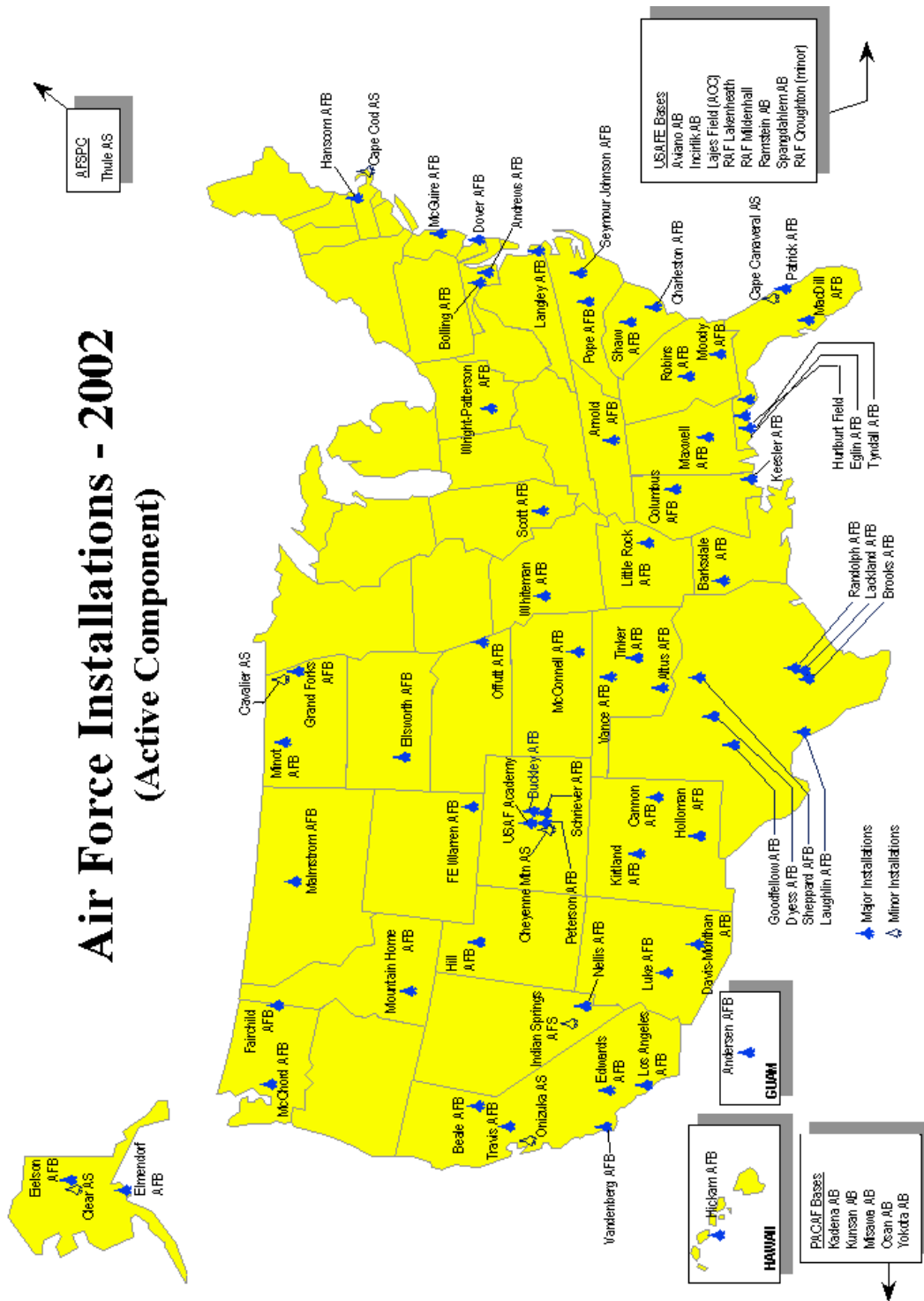
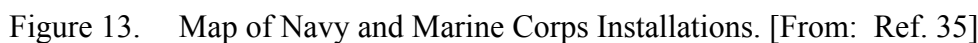


Figure 12. Map of Air Force Installations. [From: Ref. 35]

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Navy & Marine Corps Installations - 2002



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